

AUDIO VIDEO SURROUND RECEIVER

KR-V999D/1090VR

SERVICE MANUAL

KENWOOD

© 1997-4/B51-5303-00 (K/K) 3513

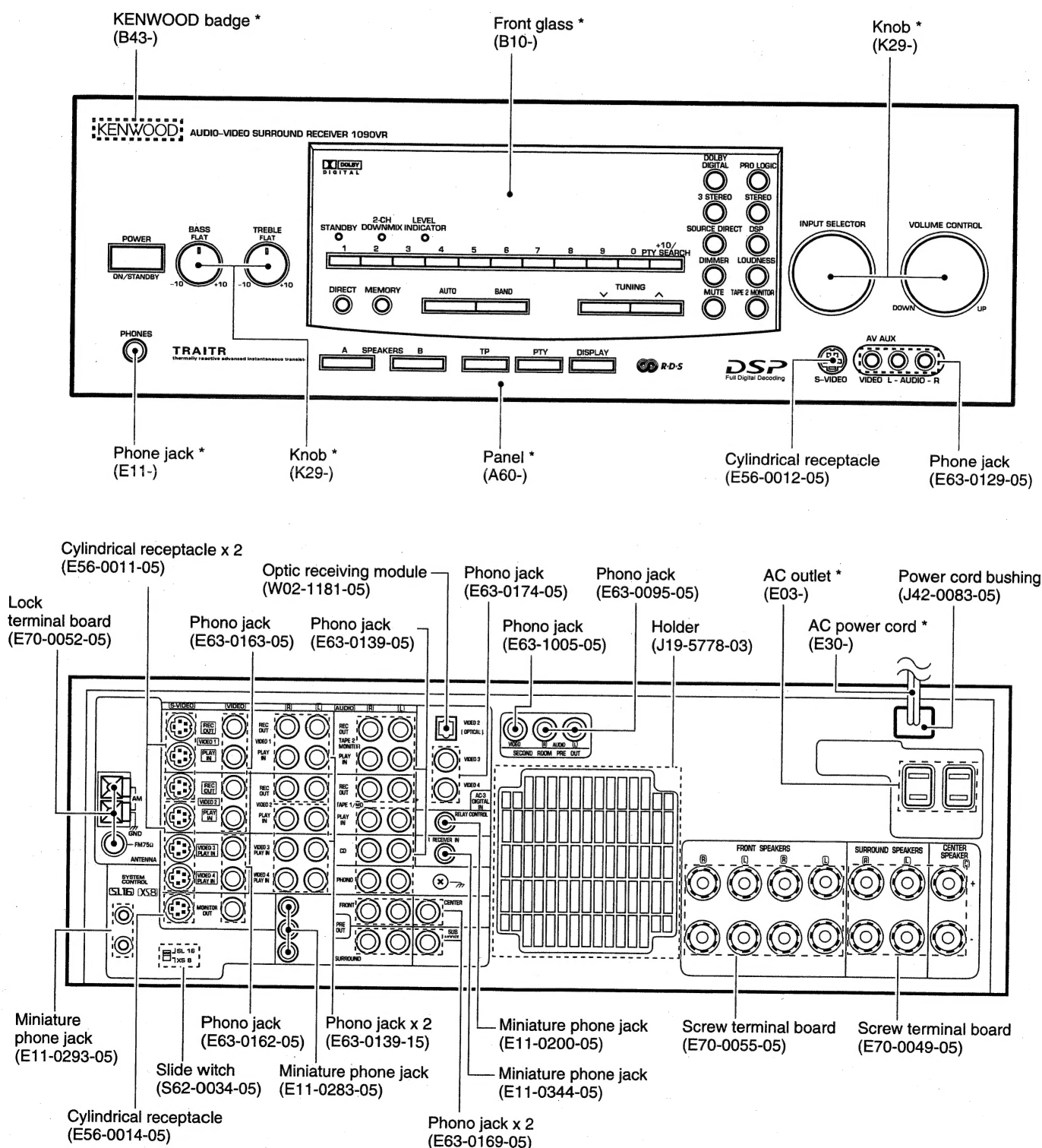


Illustration is KR-1090VR.

* Refer to parts list on page 67.

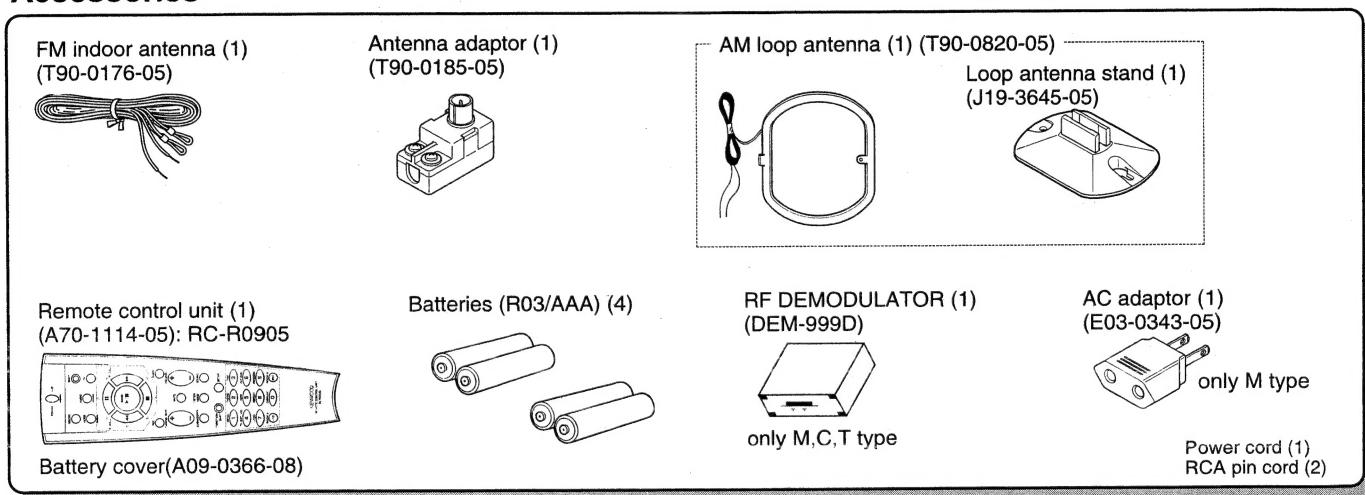
KR-V999D/1090VR

CONTENTS / ACCESSORIES

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Accessories



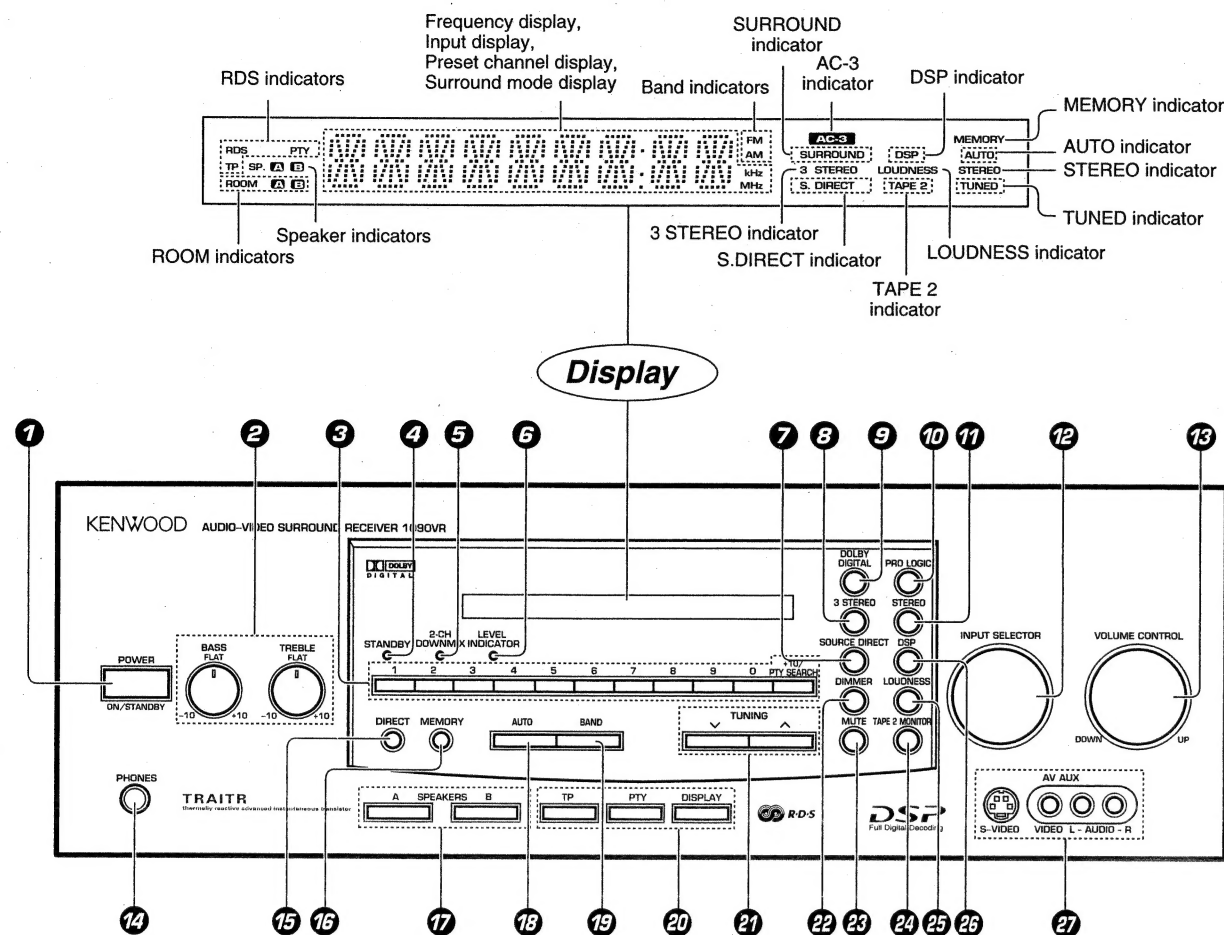
Refer to service manual of model names **DEM-999D(part number B51-5294-00)**, when **RF DEMODULATOR(DEM-999D)** is repaired.

1090VR is a model name of case that the destination of **KR-V999D** is KPY.

In a circuit explanation part, **1090VR** is expressing as **KR-V999D**.

KR-V999D/1090VR

CONTROLS



1 POWER key

Use to switch the power ON/STANDBY.

2 Tone Control knobs

3 Numeric keys

4 STANDBY indicator

Lights when an DOLBY DIGITAL (AC-3) format signal is being downmixed to 2 channel stereo.

6 LEVEL indicator

Lights when the level of the signal being input is too high.

7 SOURCE DIRECT key

Use to turn on the DOLBY 3 STEREO mode.

9 DOLBY DIGITAL key

Use to turn on the DOLBY DIGITAL (AC-3) mode.

10 PRO LOGIC key

Use to turn on the DOLBY PRO LOGIC mode.

11 STEREO key

Use to cancel the surround mode.

12 INPUT SELECTOR knob

Use to select the input sources.

13 VOLUME CONTROL knob

14 PHONES jack

Use for headphone listening.

15 DIRECT key

Use to tune radio stations directly by numerical input.

16 MEMORY key

Use to store radio stations in the preset memory.

17 SPEAKERS A/B keys

Use to turn the speakers ON/OFF.

18 AUTO key

Use to select the auto tuning mode.

19 BAND key

Use to select the broadcast band.

20 RDS keys

21 TUNING keys

Use to tune in radio broadcasts.

22 DIMMER key

Use to adjust the brightness of the display.

23 MUTE key

Use to mute the sound.

24 TAPE 2 MONITOR key

Use to monitor a recording.

25 LOUDNESS key

Use to activate the frequency weighting network.

26 DSP key

Use to turn on, or switch, the DSP mode.

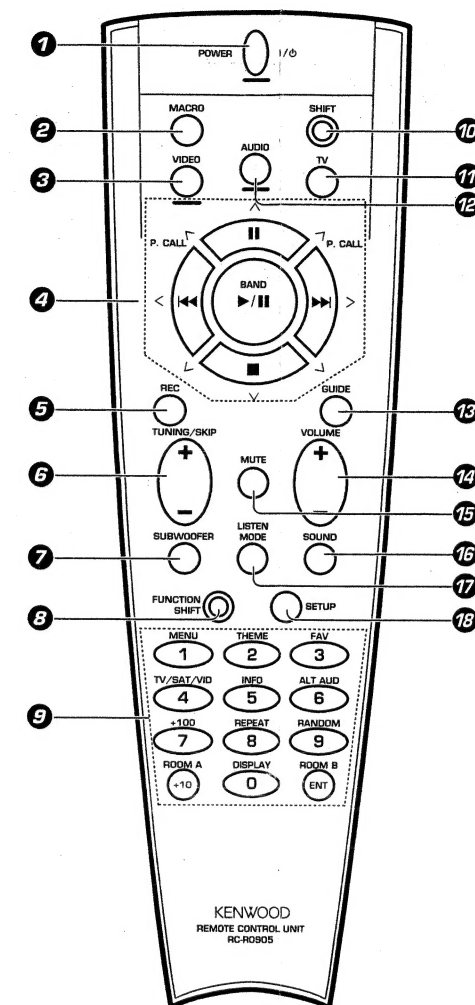
27 AV AUX jacks

About the STANDBY indicator

This unit has a **STANDBY** indicator. When the **STANDBY** indicator is lit, the unit consumes a small amount of power to preserve the memory. This is called STANDBY mode. This mode also lets you turn the power ON using the remote control.

KR-V999D/1090VR

REMOTE CONTROL OPERATION



1 POWER key

Use to turn the receiver on and off. Use in combination with the input selector (AUDIO, VIDEO, or TV) keys and SHIFT key to turn various components on and off.

2 MACRO key

Use in combination with the AUDIO, VIDEO, or TV keys to execute a series of commands automatically (MACRO PLAY).

3 VIDEO selector key

Selects the video inputs (VIDEO 1, VIDEO 2, VIDEO 3, VIDEO 4, AV AUX) and sets the remote to operate the component registered at the respective input.

4 Multi control keys

Use to operate the selected component and to operate the on-screen display.

5 REC key

Use to operate the selected component.

6 TUNING/SKIP key

Use during the setup procedure to specify various settings. Use to operate the tuner or selected component.

7 SUBWOOFER key

Use in combination with the VOLUME +/- keys to adjust the volume of the subwoofer.

8 FUNCTION SHIFT key

Use in combination with the numeric keys to execute alternate commands.

9 Numeric keys

Provide functions identical to those of the original remote supplied with the component you are controlling.

To access the functions printed above the keys, Press within 3 seconds of pressing the FUNCTION SHIFT key. Function availability varies for each component.

10 SHIFT key

Use in combination with the AUDIO and VIDEO keys to change the remote control mode without changing the input selector or in combination with the POWER key to turn on and off components programmed into the remote.

11 TV selector key

Sets the remote to operate a TV or cable box (TV 1, TV 2, CABLE). This key does not change the input selector on the receiver.

12 AUDIO selector key

Selects the audio inputs (CD, TAPE1/MD, TUNER, PHONO) and sets the remote to operate the respective KENWOOD audio component.

If you connect audio components from KENWOOD and other makers to the TAPE1/MD or CD jacks, you can set the remote to operate these components by registering the appropriate setup code at the respective input.

13 GUIDE key

Use to activate the OSD menu functions of registered components.

14 VOLUME key

Use to adjust the receiver volume.

15 MUTE key

Use to temporarily mute the sound.

16 SOUND key

Use to activate the Sound OSD and set the remote to OSD control mode.

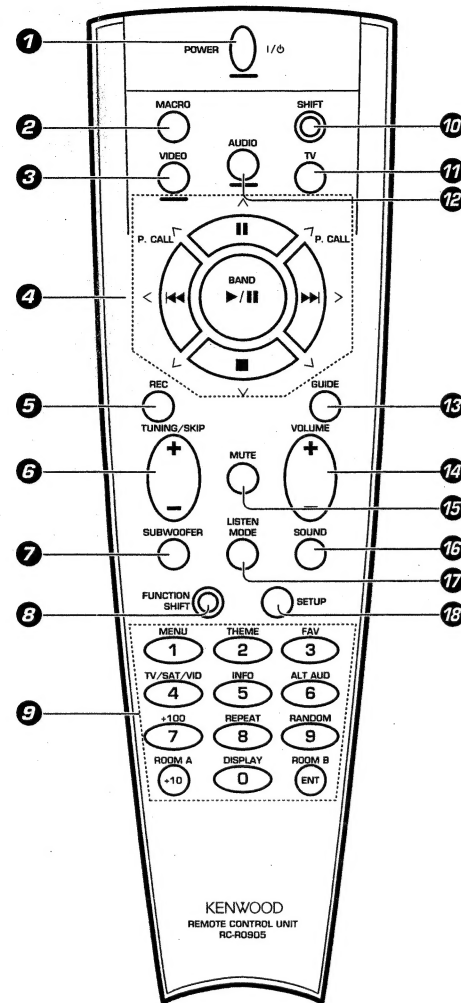
17 LISTEN MODE key

Use to select the desired surround mode.

18 SETUP key

Use to activate the Setup OSD and set the remote to OSD control mode.

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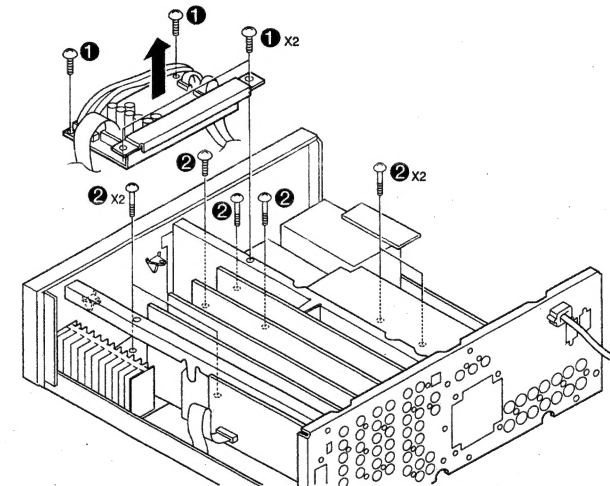
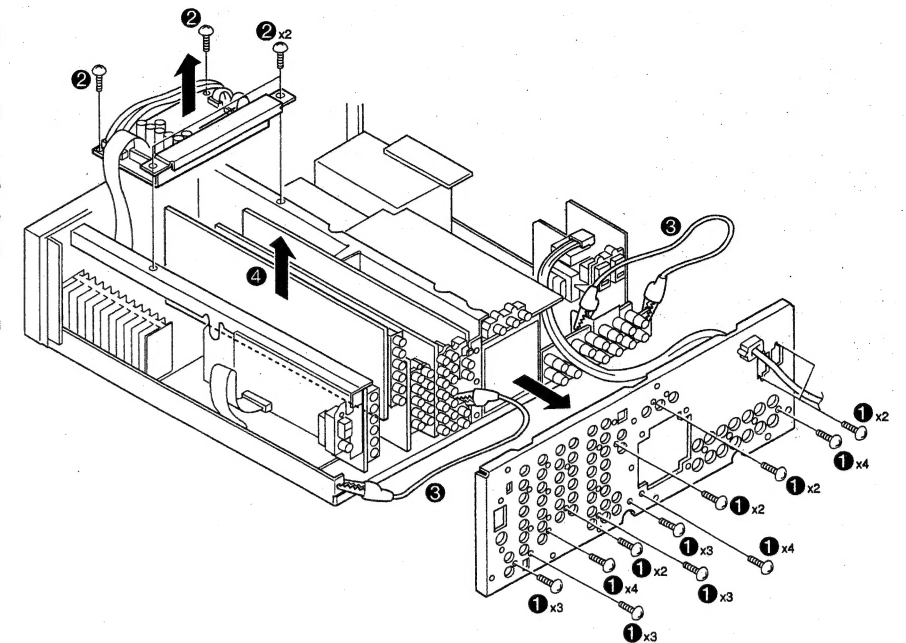
Use to activate the Setup OSD and set the remote to OSD control mode.

KR-V999D/1090VR

DISASSEMBLY FOR REPAIR

Check the vertical PCB.

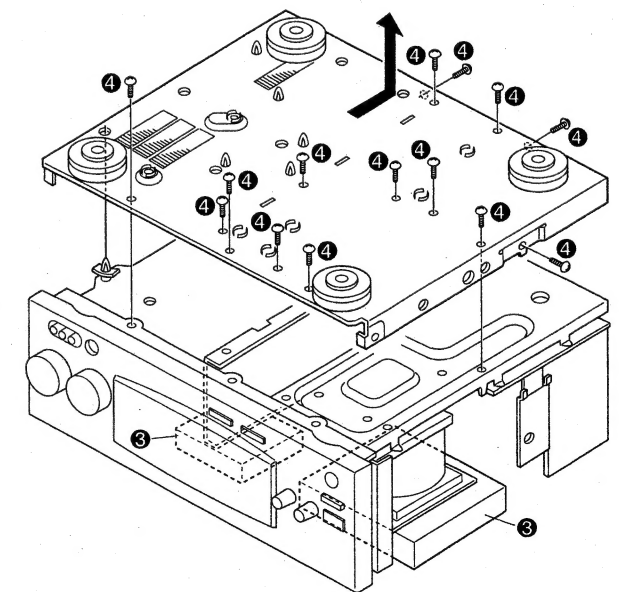
1. Remove the 32 screws (1), then remove the rear panel.
2. Remove the 4 screws (2), then remove the fuse PCB.
3. Connect the GND of the vertical PCB and the chassis, the GND of the speaker terminal and the chassis with 2 alligator clip (3).
4. Remove a vertical PCB (4), then check the vertical PCB.



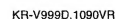
Remove the bottom plate.

Make use of the changing final transistor etc.

1. Remove the 4 screws (1), then remove the fuse PCB.
2. Remove the 7 screws (2), then assemble the fuse PCB and the 4 screws (1).
3. Lay the 2 boxes (3), then upside down the KR-V999D.
4. Remove the 14 screws (4) and PCB support, then remove the bottom plate.



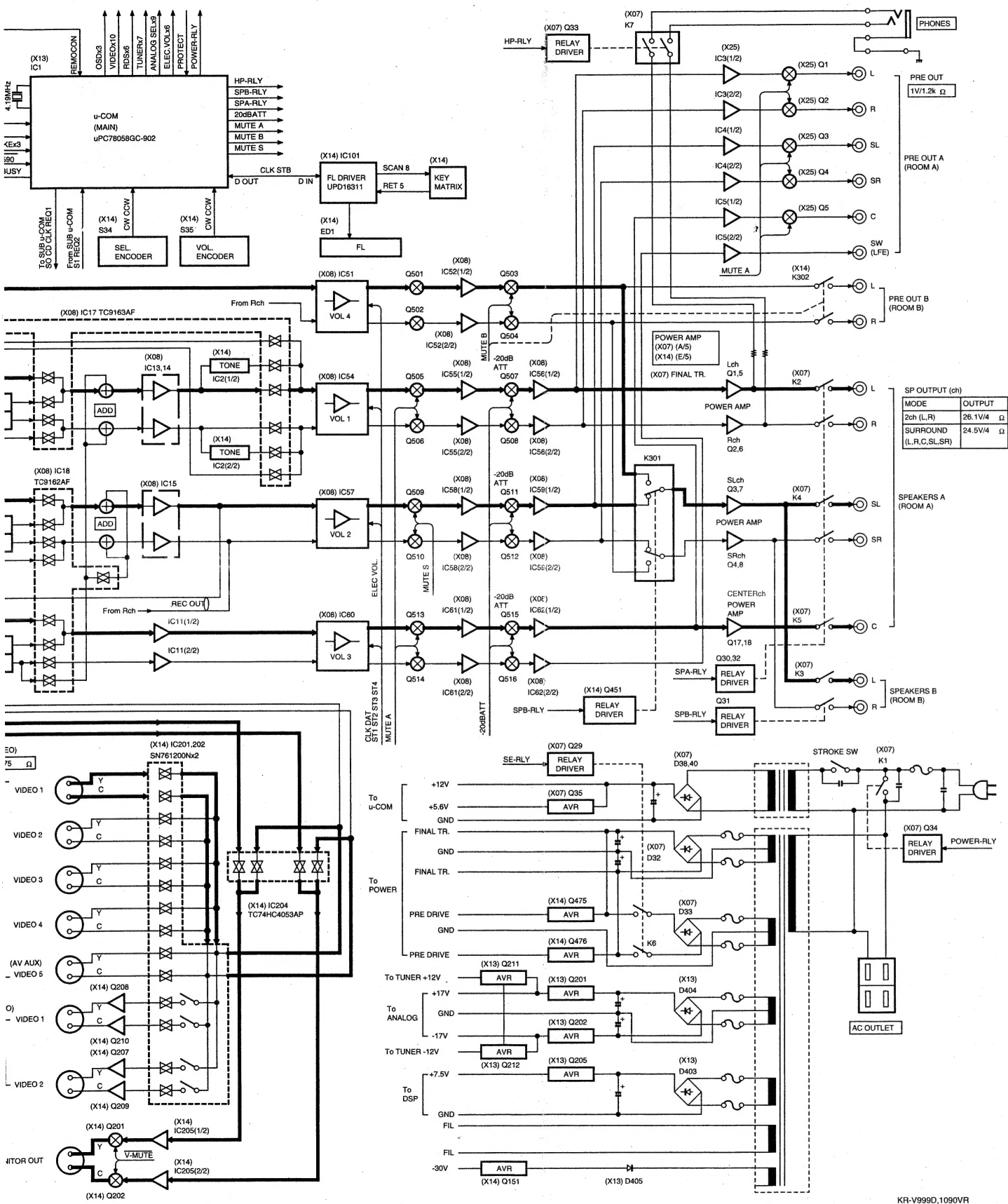
1. A init



LAST
PTY S
PTY S
TP SE
RDS I
TA / M
OSD

- When
- When
- Where
conne
- If the
of CH
- If all ϵ
- If the
state.
- Where
check

K DIAGRAM



KR-V999D/1090VR

CIRCUIT DESCRIPTION

1. A initialization condition

POWER ON/OFF	: OFF
MAIN VOLUME LEVEL	: -66dB
SOUND INPUT SELECTOR (KR-V999D : ROOM A,B)	: TUNER
PICTURE SIGNAL INPUT SELECTOR (KR-V999D : ROOM A,B)	: VIDEO 1
SPEAKER A	: ON
SPEAKER B	: OFF
TAPE 2 / MONITOR (KR-V999D ONLY)	: OFF
SOURCE DIRECT	: OFF
DIMMER	: DIMMER 1
LOUDNESS	: OFF
OSD DISPLAY MODE	: ON
FL DISPLAY MODE	: SELECTOR
SURROUND MODE	: STEREO
FRONT SPEAKER	: LARGE
CENTER SPEAKER	: LARGE
REAR SPEAKER	: LARGE
SUB WOOFER	: OFF
EACH CHANNEL LEVEL	: 0dB
TONE BASS (KR-V888 ONLY)	: 0dB
TONE TREBLE (KR-V888 ONLY)	: 0dB
TUNING MODE	: AUTO
PRESET MEMORY	: TEST FREQUENCY (MAKER MEMORY)
LAST BAND	: FM
FM LAST FREQUENCY	: 87.5MHz (Except J) 76.0MHz (J)
AM LAST FREQUENCY	: 531kHz (CH.SP 9kHz) 530kHz (CH.SP 10kHz)
LAST P.ch	: —ch
PTY SELECT MODE	: OFF
PTY SEARCH MODE	: OFF
TP SEARCH MODE	: OFF
RDS DISPLAY MODE	: PS MODE
TA / NEWS / INFO.	: OFF
OSD RT DISPLAY MODE	: ON

2. The condition which each memory becomes the initial state.

- When fixation data is not a specified value, each memory becomes the initial state.
- When a test mode flag and all illumination flag are not set up at the time of a reset, each memory becomes the initial state.
- When KR-V999D is reset while pressing POWER switch, each memory becomes the initial state. (When AC plug is connected to an outlet)
- If the destination of a tuner is changing when KR-V999D is reset, each memory becomes the initial state. Or, if the condition of CH.SPACE switch is changing when KR-V999D is reset, each memory becomes the initial state.
- If all electron volume data are back-up previous condition, when KR-V999D is reset, each memory becomes the initial state.
- If the data of all electron volume is not agreeing completely when KR-V999D is reset, each memory becomes the initial state.
- When KR-V999D is reset the value of a memory is added. Or the value of a memory is added when back-up is done. And, a checksum is calculated. And, if the checksum that was calculated does not agree, each memory becomes the initial state.

KR-V999D/1090VR

CIRCUIT DESCRIPTION

KR-V999D/1090VR

CIRCUIT DESCRIPTION

④ Mute signal output

Because the analog mute always becomes OFF condition, it isn't possible to control absolutely. however, when the value with front volume is the minimum, it becomes an analog mute ON condition.

⑤ Sub microprocessor mute work

A sub microprocessor mute works, by pressing AUTO/MANUAL key. The work of a sub microprocessor mute is cancelled cyclically, by pressing AUTO/MANUAL key after that.

- The display to this work is not displayed to an indicator tube.

⑥ Midnight work function.

The following work is done cyclically, each time TUNING-UP key is pressed.

⑦ Dolby System surround center mode function

The following display is displayed cyclically each time TUNING-UP key is pressed.

⑧ The sub woofer speaker ON/OFF setting

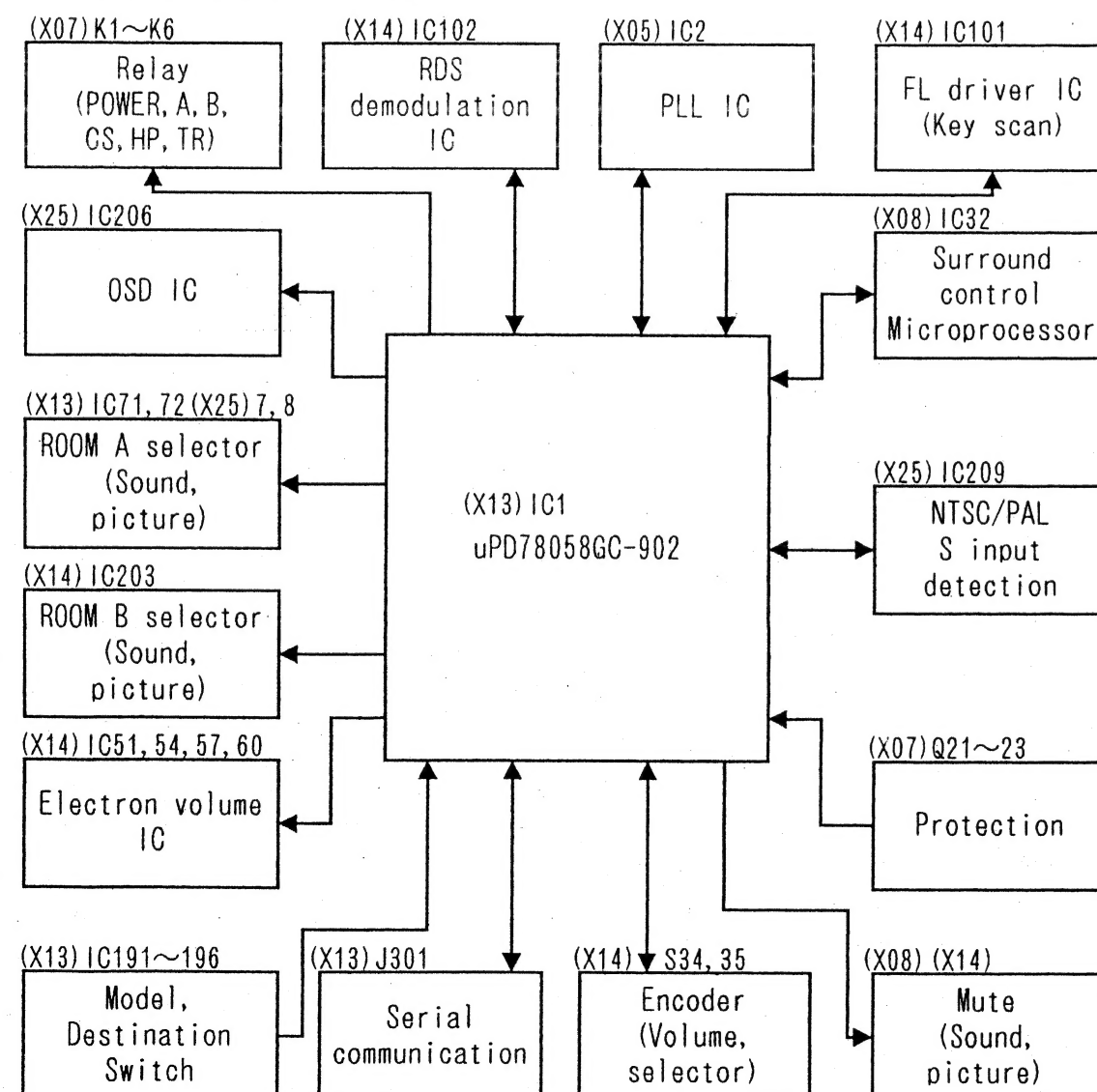
The setting of the existence or non-existence of a sub woofer speaker is able to set up cyclically each time MEMORY key is pressed.

⑨ TONE BASS/TREBLE. (KR-V888D/1080VR only)

The following display are done cyclically by pressing TONE BASS/TREBLE, when a test mode is working.

6. Microprocessor uPD78058GC-902 (X13-, IC1)

6-1 Microprocessor periphery block diagram



6-2. Terminal explanation

Pin No.	Name	I/O	Description
1	RELAY_TR	O	Relay Secondary side of the transformer
2	RELAY_HP	O	Relay HEAD PHONE
3	PROTECT	I	Protection input
4	AVSS	—	GND for A/D
5	SUB_RESET	O	Sub microprocessor RESET
6	OSD_CS1	O	MB90089 CS1 for NTSC
7	AVREF1	—	Unuse
8	8/16	I	Serial 8/16 bit judgement terminals
9	OSD_SIN	O	MB90089 SIN
10	OSD_SCLK	O	MB90089 SCLK
11	SUB_SI	I	Control microprocessor communication SI
12	SUB_SO	O	Control microprocessor communication SO
13	SUB_CLK	O	Control microprocessor CLK
14	SUB_REQ1	O	Control microprocessor REQ1
15	SUB_REQ2	I	Control microprocessor REQ2
16	FL_DOUT	I	UPD16311 DOUT (key scan)
17	FL_DIN	O	UPD16311 DIN (display data output)
18	FL_CLK	O	uPD16311 CLK
19	999D/888D	I	KR-V999D/888D switching switch
20,21	SEL_1,SEL_2	I	Selector encoder input 1 input 2
22,23	VOL_1, VOL_2	I	Volume encoder input 1 input 2
24 - 26	TSW_0 - TSW_2	I	Destination switching switch 0 - switch 2
27	FL_STB	O	uPD16311 STB
28	VSEL_DATA	O	NJU3713 (expansion IC for picture selector) DATA
29	VSEL_CLK	O	NJU3713 (expansion IC for picture selector) CLK
30	VSEL_STB	O	NJU3713 (expansion IC for picture selector) STB
31	—	—	Unuse
32	S_SW	I	S detection
33	VSS	—	
34	OSD_CS2	O	MB90089 CS2 for PAL
35	NTSC_PAL_OUT	O	NTSC/PAL switching output
36	NTSC_PAL_IN	I	NTSC/PAL switching input
37	LOUDNESS	O	LOUDNESS control
38,39	—	—	Unuse
40	SEL_STB1	O	NJU731x STB for ROOM A
41	SEL_STB2	O	NJU731x STB for ROOM B
42	VOL_CE	O	TC9412 CE
43	COM_DATA	O	TC916x,TC9412 DATA
44	COM_CLK	O	TC916x,TC9412 CLK
45	SBUSY	I/O	Serial BUSY
46	SDATA	I/O	Serial DATA
47	MUTE_A	O	ROOM A mute
48	MUTE_B	O	ROOM B mute
49	SYNC_DET	I	OSD picture synchronous signal detection
50	V_MUTE	O	VIDEO MUTE

KR-V999D/1090VR

CIRCUIT DESCRIPTION

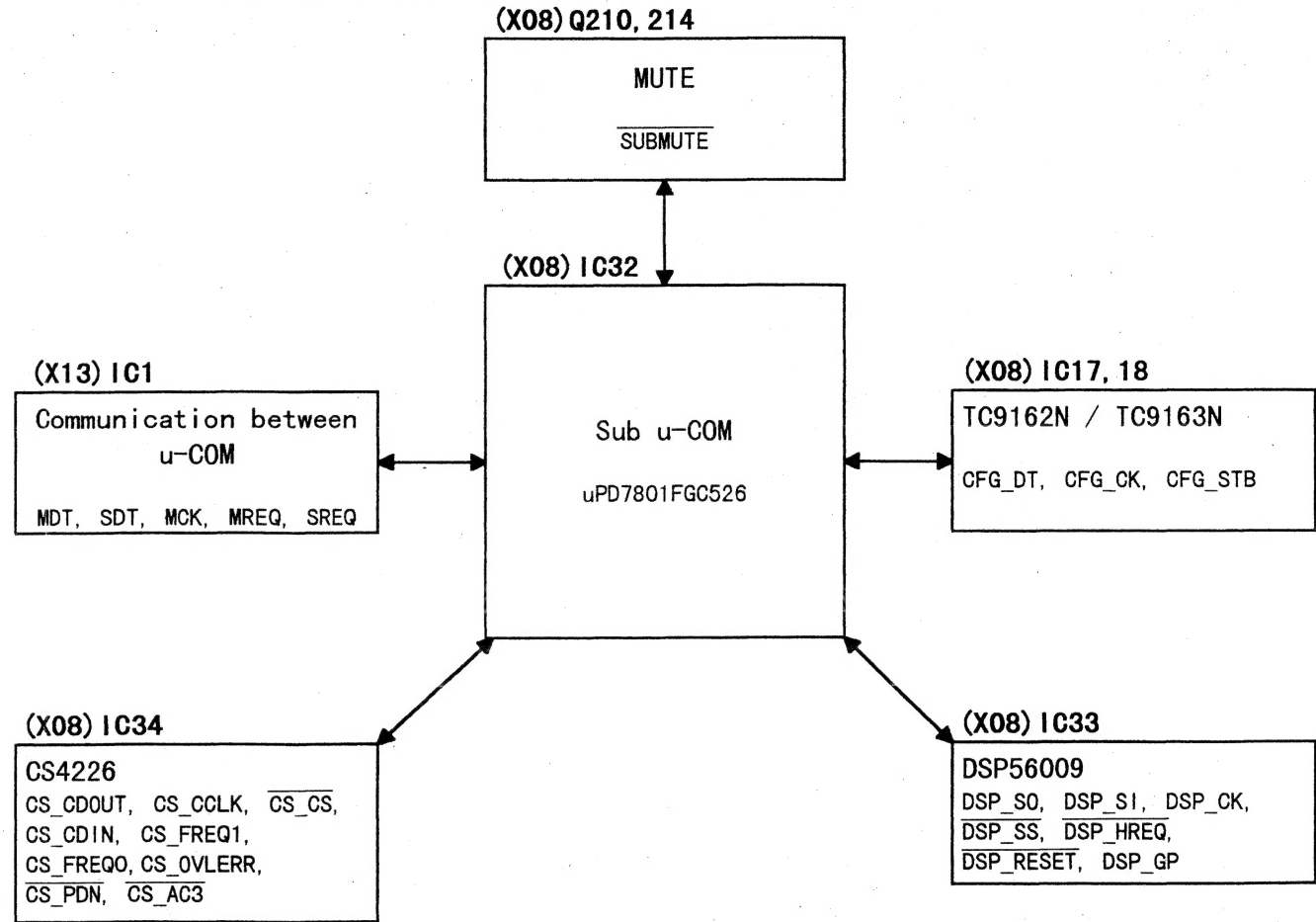
Pin No.	Name	I/O	Description
51	-20dB_MUTE	O	-20dB MUTE
52	EXT_OUT	O	EXTERNAL OUT
53	T_MUTE	O	Tuner mute
54	PLL_CLK	O	LC72131 CLK
55	PLL_DATA	O	LC72131 DATA
56	PLL_CE	O	LC72131 CE
57	SD	I	SD input
58	STEREO	I	STEREO input
59	PLL_DO	I	LC72131 DO
60	RESET	I	Reset
61	REMOCON	I	Remote controller input
62	TSW_3	I	Destination switching switch 3 (CH, SPACE)
63	RDS_DATA	I	RDS DATA
64	RDS_CLK	I	RDS CLK
65	TSW_4	I	Destination switching switch 4
66	—	—	Unuse
67	CE	I	Backup
68	VDD	—	Power supply+5V
69	X2	—	System clock connection
70	X1	I	System clock connection
71 - 73	—	—	Unuse
74	AVDD	—	Analogue power supply for A/D
75	AVREF0	—	Standard voltage input for A/D
76	RDS_SLEVEL	I	RDS S_LEVEL
77	RELAY_POWER	O	Relay POWER
78	RELAY_A	O	Relay ROOM A
79	RELAY_B	O	Relay ROOM B
80	RELAY_CS	O	Relay CENTER SURROUND

KR-V999D/1090VR

CIRCUIT DESCRIPTION

7. Sub-microprocessor uPD7801FGC526 (X08:- IC32)

7-1 Microprocessor periphery block diagram



7-2 Terminal explanation (submicroprocessor)

PIN NO.	NAME	I/O	DESCRIPTION
1	DSP_SS	O	DSP56009 SS
2	DSP_HREQ	I	DSP56009 HREQ
3	DSP_RESET	O	DSP56009 RESET
4,5	NC	I	UNUSE
6	CFG_DT	O	TC9162N/TC9163N DATA
7	CFG_CK	O	TC9162N/TC9163N CLOCK
8	CFG_STB	O	TC9162N/TC9163N STROBE
9	VSS		GND
10-12	NC	O	UNUSE
13	AD_SEL	O	ST.PCM/AC3 2ch DOWN MIX :L ELSE : H
14-17	NC	O	UNUSE
18	CS_CDOUT	I	CS4226 DATA IN
19	CS_CCLK	O	CS4226 CLOCK
20	CS_CS	O	CS4226 CHIP SELECT

KR-V999D/1090VR

CIRCUIT DESCRIPTION

PIN NO.	NAME	I/O	DESCRIPTION
21	CS_CDIN	O	CS4226 DATA OUT
22	CS_FREQ1	I	CS4226 FS CHECK
23	CS_FREQ0	I	CS4226 FS CHECK
24	VSS		GND
25	CS_PDN	O	CS4226 POWER DOWN PORT
26	CS_AUDIO	I	CS4226 AUDIO
27-30	NC	I	UNUSE
31	CS_OVL/ERR	I	CS4226 OVER LOAD//ERROR DETECT
32	SUBMUTE	O	ANALOG MUTE CONTROL
33,34	NC	I	UNUSE
35	RESET	I	u-COM RESET
36	CS_AC3	I	CS4226 AC3
37-39	NC	I	UNUSE
40	VDD		+5V
41	X2	O	CERAMICS
42	X1	I	CERAMICS
43	IC(VPP)		GND
44	XT2		OPEN
45	NC	I	+5V
46	AVSS		GND
47,48	NC	I	UNUSE
49	TEST_T	O	TEST TONE OFF/ON ON : LOW / OFF : HIGH
50-53	NC	I	UNUSE
54	DSP_GP	O	DSP56009 GP10PIN
55	AVDD		+5V
56	AVREF	I	GND
57	MDT	I	Communication between u-COM MASTER DATA
58	SDT	O	Communication between u-COM SLAVE DATA
59	MCK	I	Communication between u-COM MASTER CLOCK
60	MREQ	I	Communication between u-COM MASTER REQUEST
61	SREQ	O	Communication between u-COM SLAVE REQUEST
62	DSP_SQ	I	DSP56009 DATA IN
63	DSP_SI	O	DSP56009 DATA OUT
64	DSP_CK	O	DSP56009 CLOCK

Key matrix table

	⑬ KS0	⑫ KS1	⑪ KS2	⑩ KS3
⑮ KS1	—	DOLBY PROLOGIC	DOLBY 3 STEREO	DOLBY AC-3
⑯ KS2	STEREO	DSP	SOURCE DIRECT	—
⑰ KS3	LOUDNESS	MUTE	DIMMER	TAPE2
⑱ KS4	TUNING DOWN	0	9	+10
⑲ KS5	8	TUNING UP	6	7
⑳ KS6	BAND	AUTO / MANUAL	4	5
㉑ KS7	—	PTY	RDS DISPLAY	TA / NEWS / INFO.
㉒ KS8	SPEAKER A	MEMORY	2	3
㉓ KS9	POWER	SPEAKER B	1	DIRECT

※ The number inside ○ is a terminal number of IC101(X14).

KR-V999D/1090VR

CIRCUIT DESCRIPTION

8. Control list for the switch and the port

(1) Sound system selector ROOM A (0 : SW OFF / 1 : SW ON)

		X25(IC9)		(X08)IC71						(X08)IC72						(X25)IC8					
		②	②7	②7	②6	②3	②2	①9	①8	②7	②6	②5	②3	②2	②1	②	②7	③	②6	④	②5
TAPE 2 OFF	TUNER	1		0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	1	0
	PHONO	1		0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	1	0
	CD	1		0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	1	0
	TAPE1	0		0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0
	VIDEO1	1		1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	VIDEO2	1		0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	VIDEO3	1		0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	1	0
	VIDEO4	1		0	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	1	0
TAPE 2 ON	AV AUX	1		0	0	0	0	1	1	0	0	1	0	0	1	0	0	0	0	1	0
	TUNER	1		0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	1
	PHONO	1		0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	1
	CD	1		0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1
	TAPE1	0		0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1
	VIDEO1	1		1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	VIDEO2	1		0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	VIDEO3	1		0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	1
	VIDEO4	1		0	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	1
	AV AUX	1		0	0	0	0	1	1	0	0	1	0	0	1	0	0	0	0	0	1

(2) Sound system selector ROOM B (0 : SW OFF / 1 : SW ON)

	(X08)IC71						(X08)IC72						(X25)IC27					
	②	③	⑥	⑦	⑩	⑪	②	③	④	⑥	⑦	⑧	②	②7	③	②6	④	②5
TUNER	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0
PHONO	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0
CD	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0
TAPE1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0
VIDEO1	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
VIDEO2	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
VIDEO3	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0
VIDEO4	0	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0
AV AUX	0	0	0	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0

(3) Picture system selector ROOM A (0 : L / 1 : H)

	(X13)IC7				
	⑭	⑮	⑯	⑰	①
VIDEO1	0	0	0	0	0
VIDEO2	1	0	1	0	0
VIDEO3	1	1	1	1	1
VIDEO4	1	1	1	1	0
AV AUX	0	1	0	1	0

KR-V999D/1090VR

CIRCUIT DESCRIPTION

(4) Picture system selector ROOM B (0 : L / 1 : H)

VIDEO OUT	(X13)IC7		
	②	③	④
VIDEO1	0	0	0
VIDEO2	1	0	0
VIDEO3	0	1	0
VIDEO4	0	0	1
AV AUX	1	1	0

(5) Relay switching (0 : RELAY OFF / 1 : RELAY ON)

SPEAKER A	SPEAKER B	SURROUND	(X07)RELAY				
			A(K2)	B(K3)	CS(K4) (K5)	TR(K6)	HP(K7)
OFF	OFF	OFF	0	0	0	1	1
ON	OFF	OFF	1	0	0	1	0
ON	OFF	ON	1	0	1	1	0
OFF	ON	OFF	0	1	0	1	0
ON	ON	OFF	1	1	0	0	0

(6) OSD switching (0 : L / 1 : H)

S_SW	OSD A/B	(X13)IC7		
		⑥	⑦	⑧
L	A	0	0	1
L	B	0	1	0
H	A	1	1	1
H	B	0	1	0

(7) Input level switching (0 : SW OFF / 1 : SW ON)

	(X25)IC8			
	⑩	⑪	⑫	⑬
INPUT LEVEL ATT 0dB	1	0	0	0
INPUT LEVEL ATT -3dB	0	0	0	0
INPUT LEVEL ATT -6dB	0	0	1	0

(8) Digital REC switching (0 : SW OFF / 1 : SW ON)

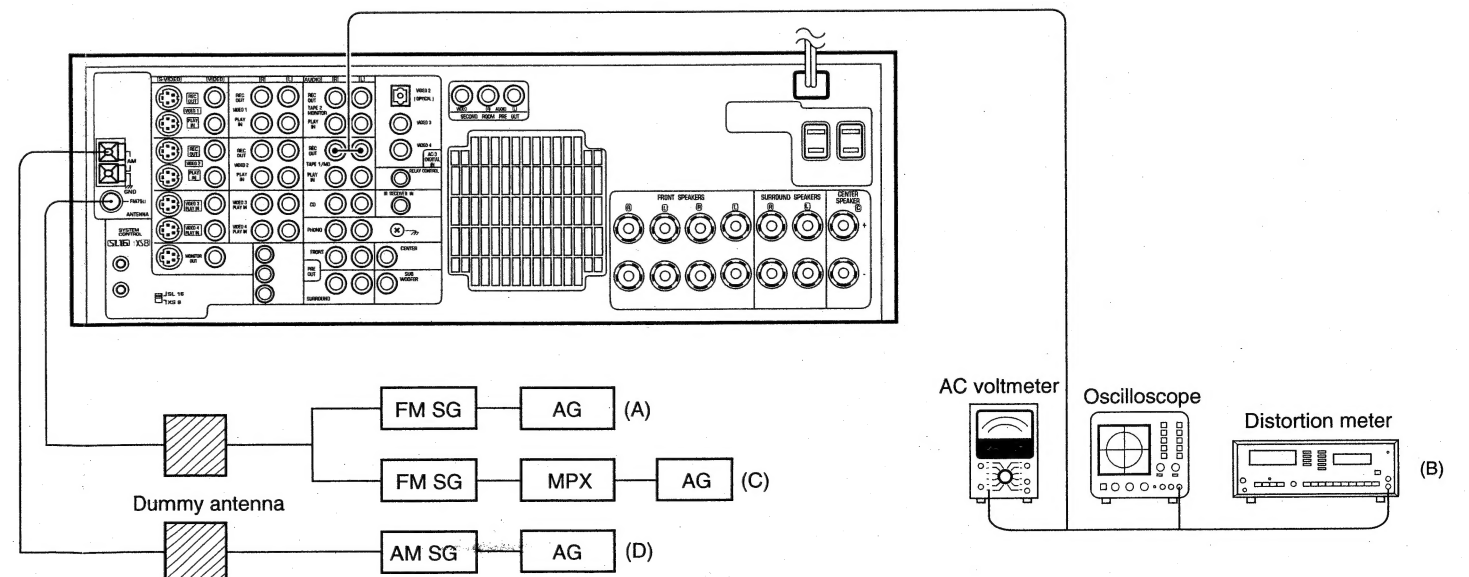
	(X25)IC9				
	③	⑤	⑥	⑧	⑨
DIGITAL REC	0	1	1	0	0
Except for DIGITAL REC	1	0	0	1	1

KR-V999D/1090VR

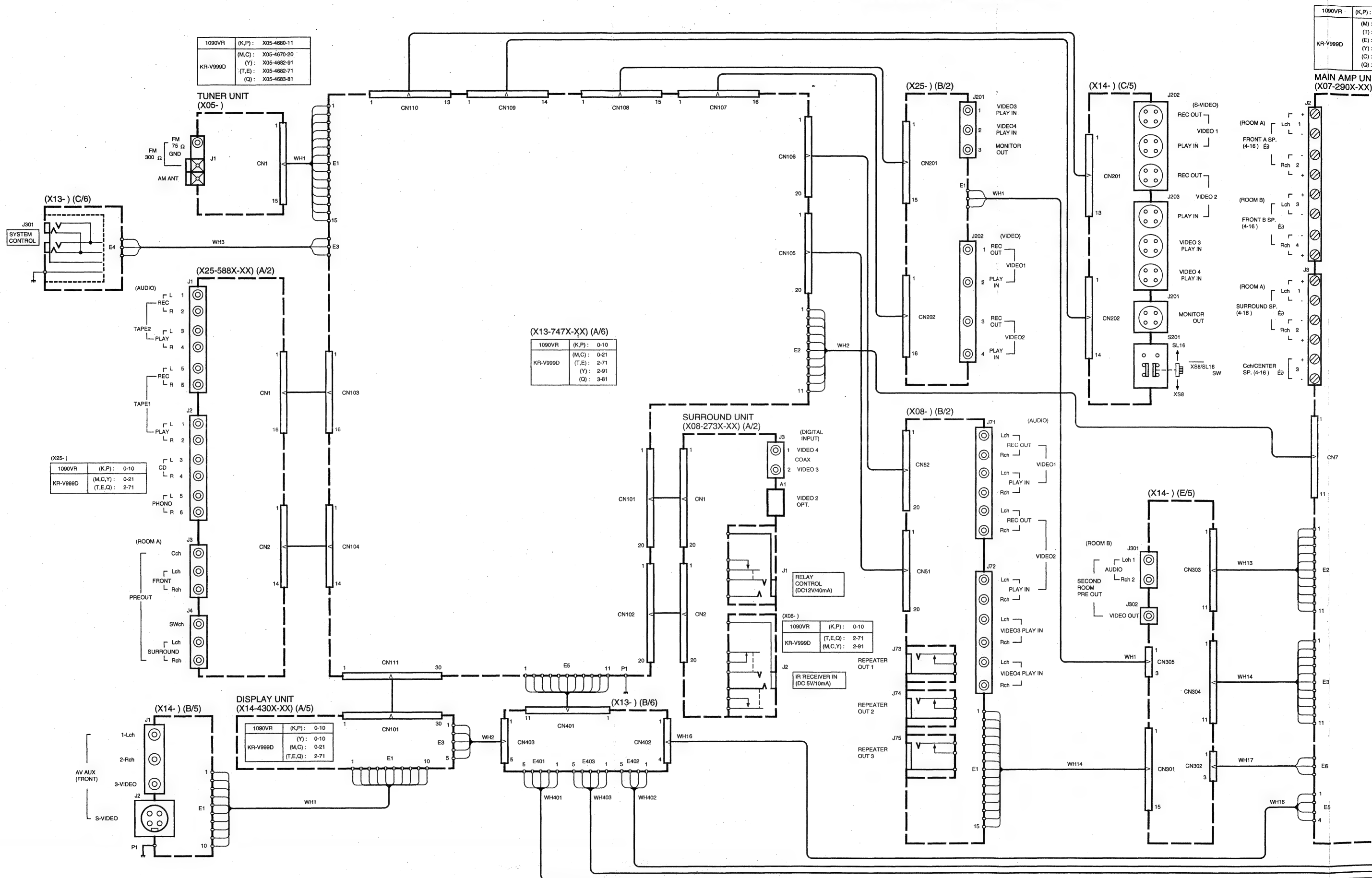
ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION (E,T type) SELECTOR : FM							
1	DISCRIMINATOR L31 ↔ L32 (E, T, Q only)	(A) 98.0MHz 1kHz, ±40kHz dev. 60dBμ(Ant input)	Connect a DC voltmeter between TP3 of CN2 (X05-)	AUTO 98.0MHz	L31 (X05-)	0V	(a)
					L32 (X05-)	Minimum distortion	
2	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, ±40kHz dev. Pilot: ±6kHz dev. 60dBμ(Ant input)	(B)	AUTO 98.0MHz	IFT (W02-)	Minimum distortion	(a)
AUDIO SECTION SPEAKER : A PREOUT : OFF PROLOGIC : ON							
<1>	IDLE CURRENT	—	Connect a DC voltmeter across CP1 or CN15(L) CN16(R) CN9(CENTER) CN20(SR) or CN17(SL) (X07-)	Volume:0	VR1(L) VR2(R) VR3(SL) VR4(SR) VR5(CENTER) (X07-)	13mV	
<2>	ON SCREEN Color burst frequency	After take a single PCB, conner supply between TP(+5V) and GND (X25-)(B/2)	Connect a frequency counter between port 10 (check round of HSYNC) of IC204(or 206) and GND (X25-)(B/2)	After power ON (stand-by), input Low CS(24pin) of IC204(or 206) four time(cancel inner reset), then input Low TEST(24pin)	TC201(NTSC) TC1(X14-) TC202(PAL) (X25-)	(TC201) 3.57954MHz (TC202) 4.433619MHz	

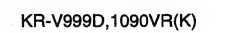
(a)



KR-V999D/1090VR KR-V999D/1090VR WIRING DIAGRAM



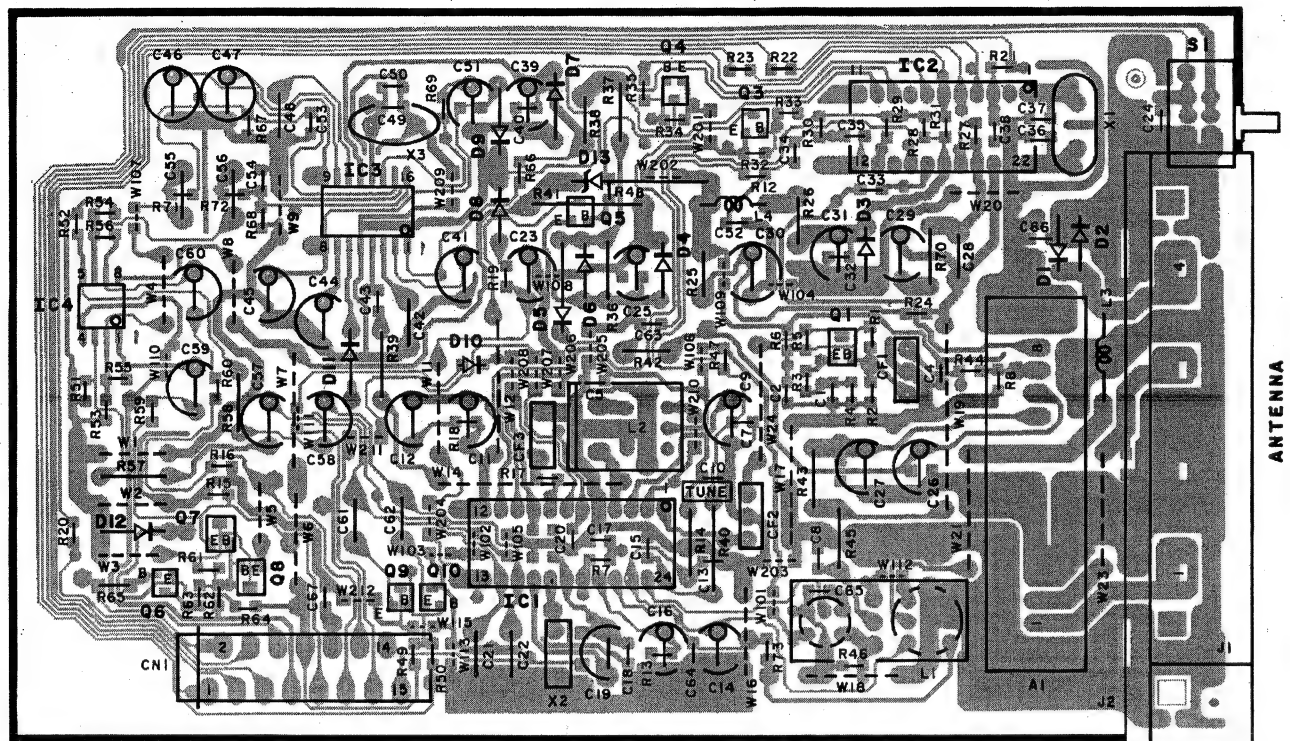
KR-V999D/1090VR



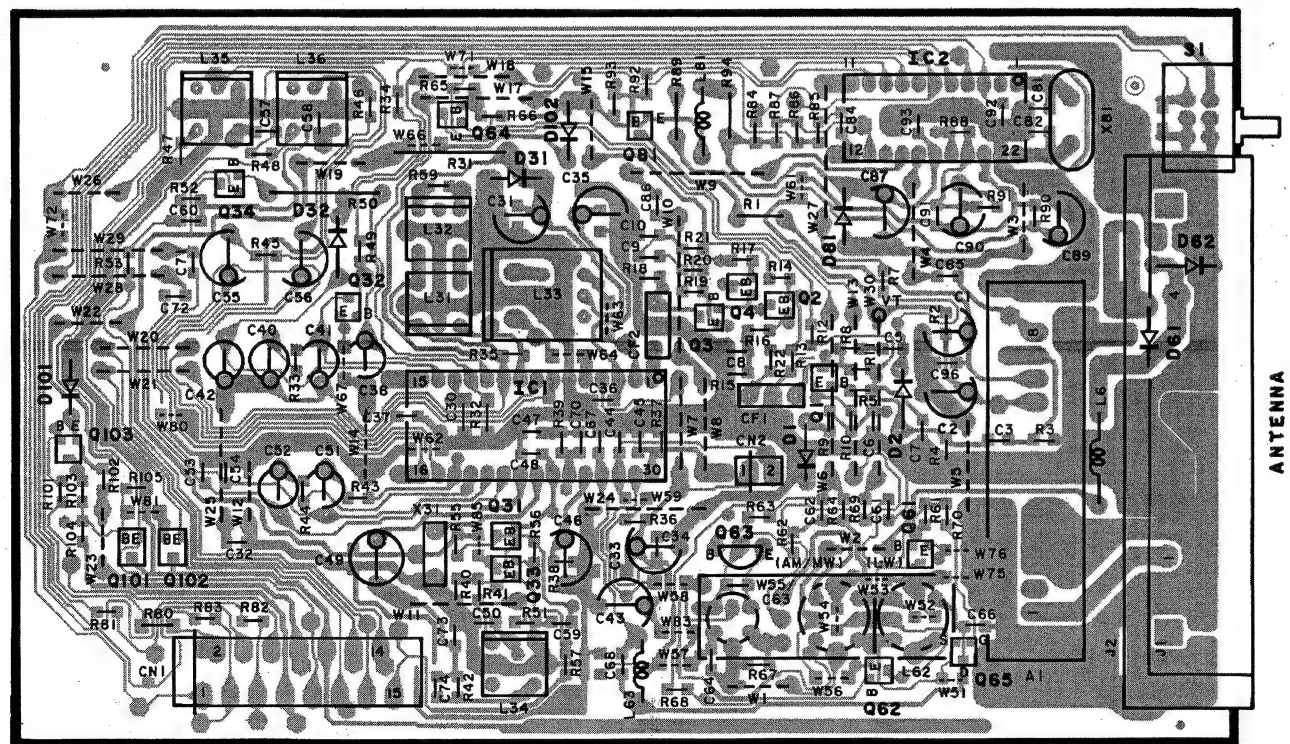
PC BOARD(Component side view)

TUNER UNIT(X05-4670-20); CM(KR-V999D)

(X05-4670-20) J70-0959-11



TUNER UNIT(X05-468X-XX) 0-11: KP(1090VR) 3-81: Q(KR-V999D)
(X05-468X-XX) J70-0960-21 2-71: TE(KR-V999D) 2-91: Y(1090VR)



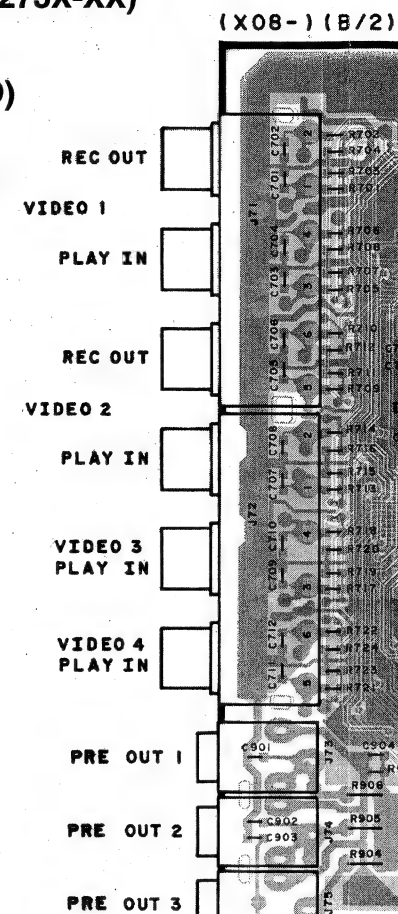
SURROUND UNIT(X08-273X-XX)

0-10: KP(1090VR)

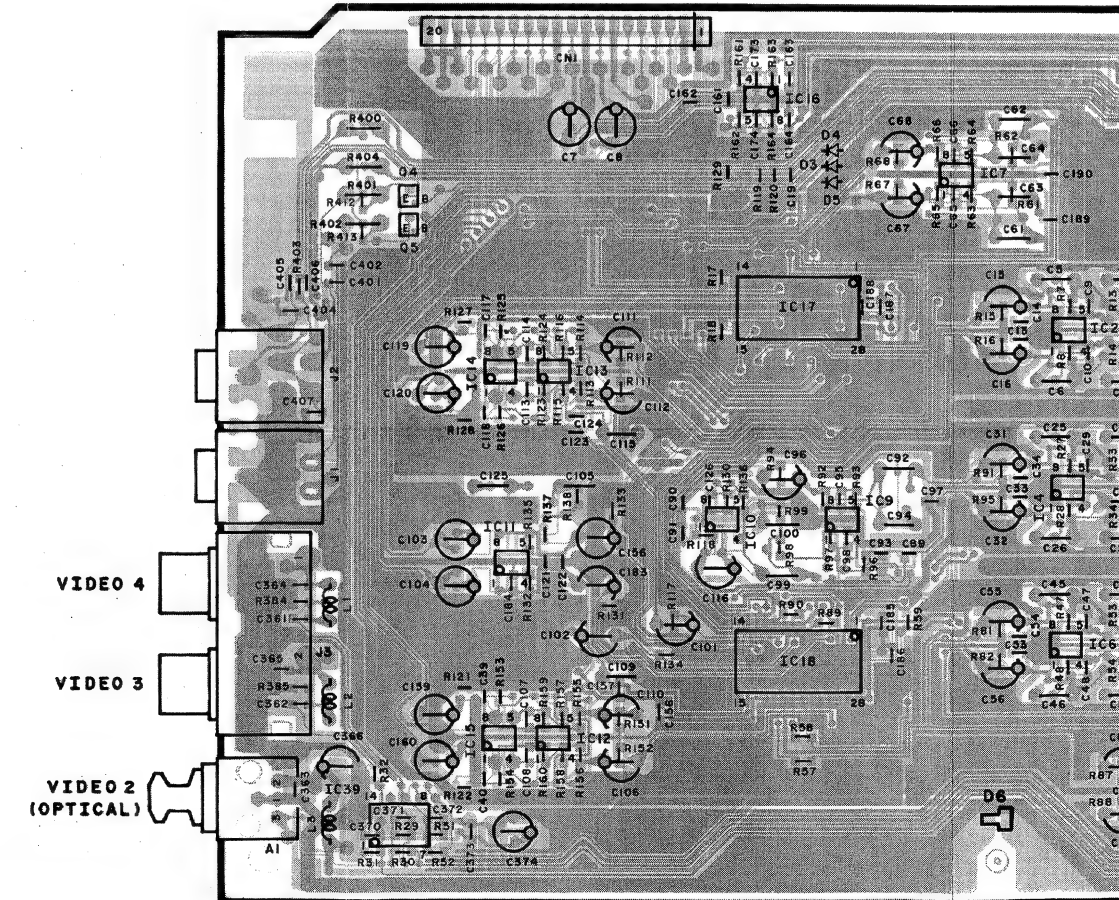
2-71: EQT(KR-V999D)

2-91: Y(1090VR)

CM(KR-V999D)



(X08-2730-10) (A/2) J70-0975-21



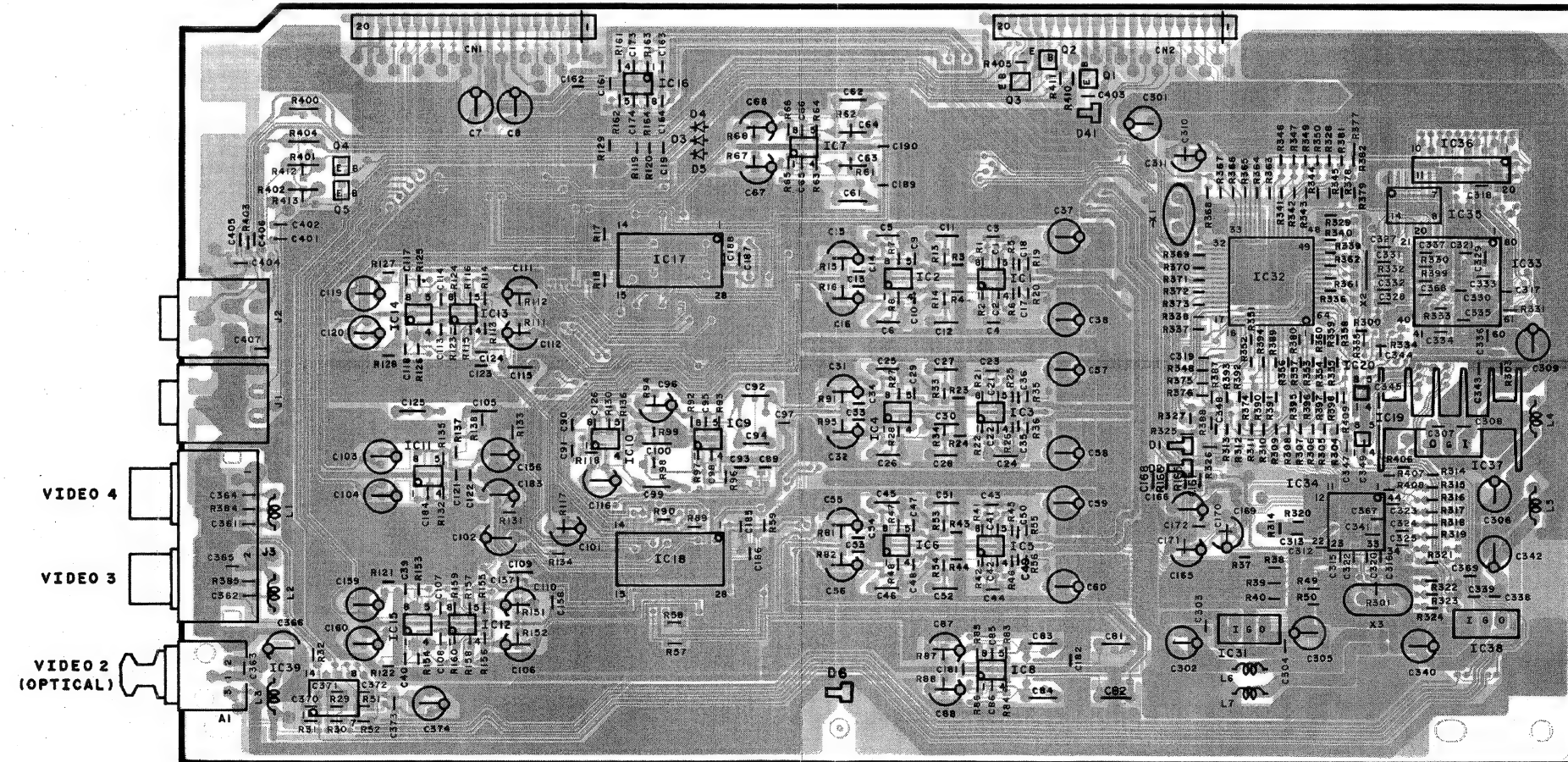
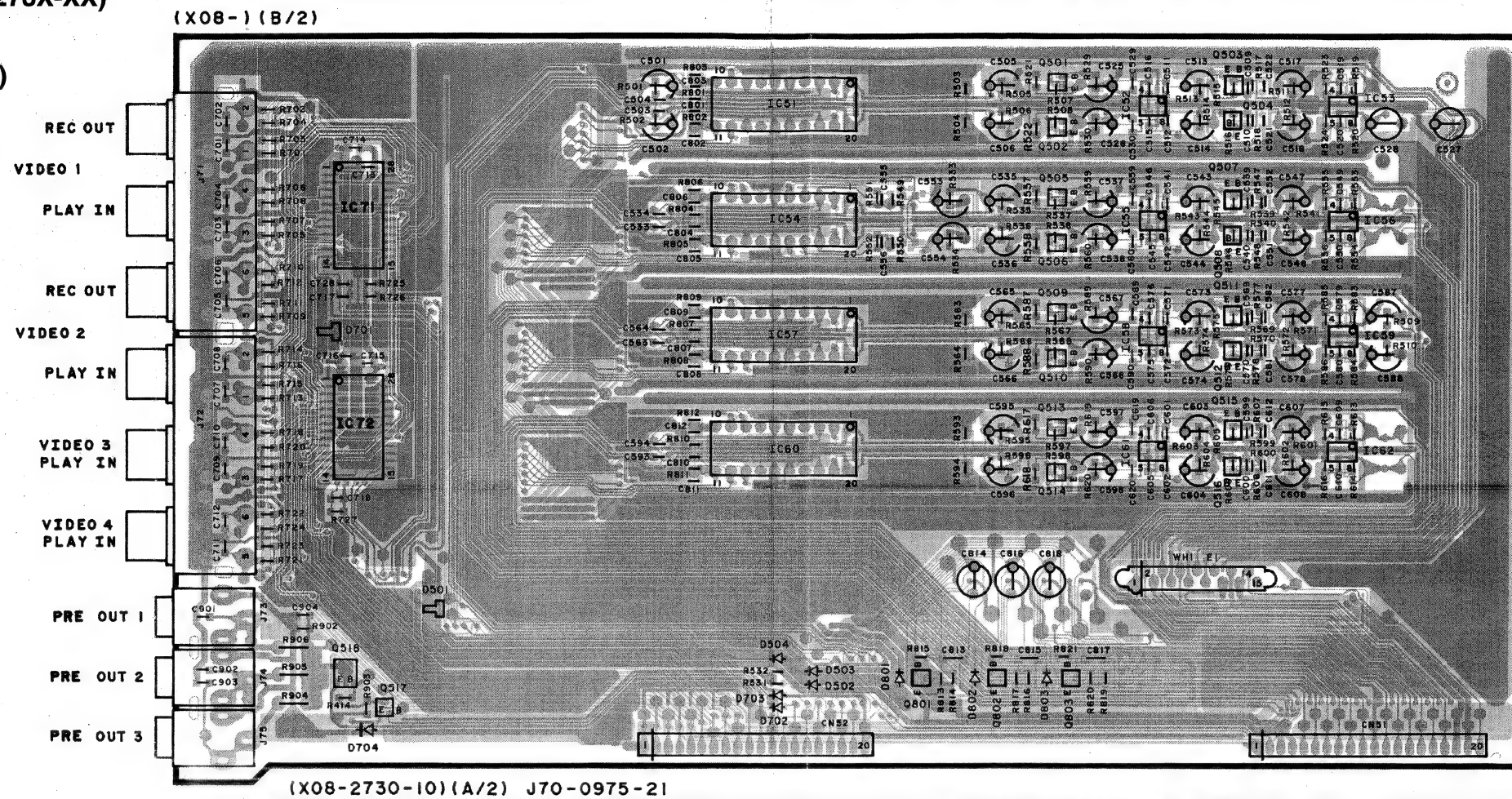
SURROUND UNIT(X08-273X-XX)

0-10: KP(1090VR)

2-71: EQT(KR-V999D)

2-91: Y(1090VR)

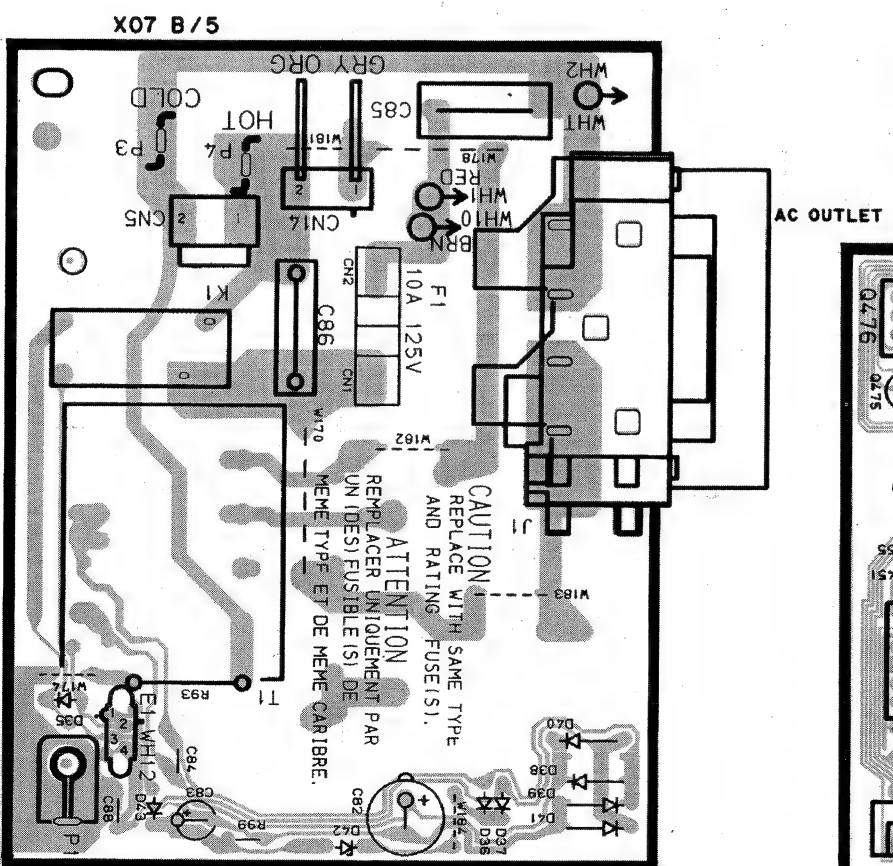
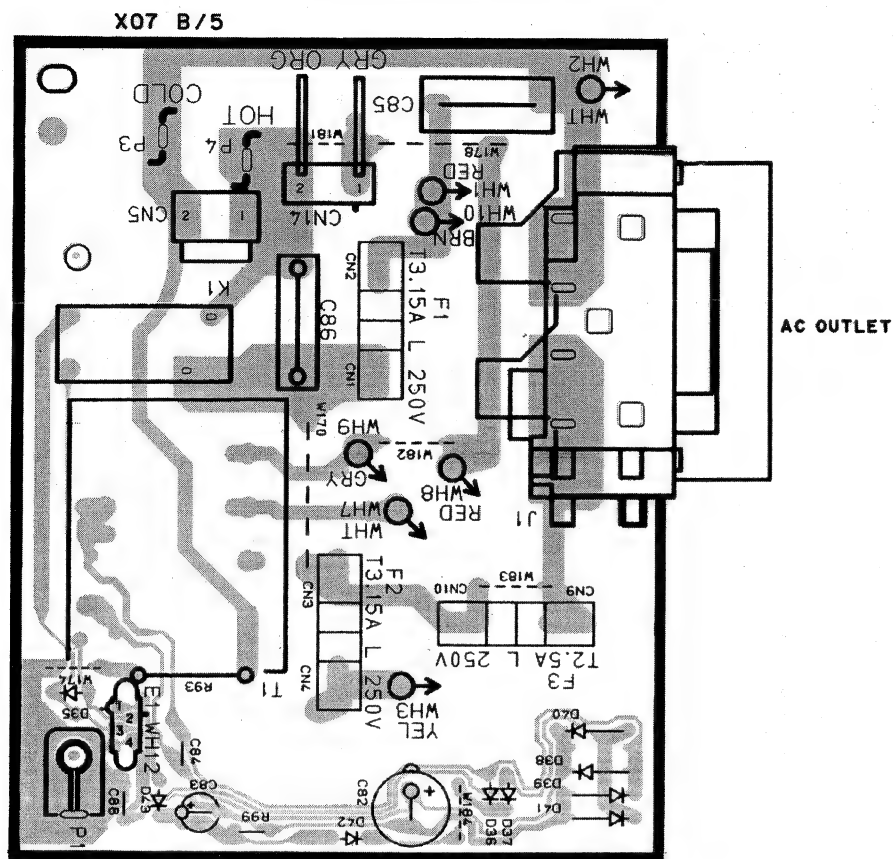
CM(KR-V999D)



PC BOARD(Component side view)

POWER AMPLIFIER UNIT(X07-290X-XX)

- 0-10: KP(1090VR)
- 0-21: M(KR-V999D)
- 0-51: T(KR-V999D)
- 2-71: E(KR-V999D)
- 2-91: Y(1090VR)
- 3-01: C(KR-V999D)
- 3-81: Q(KR-V999D)



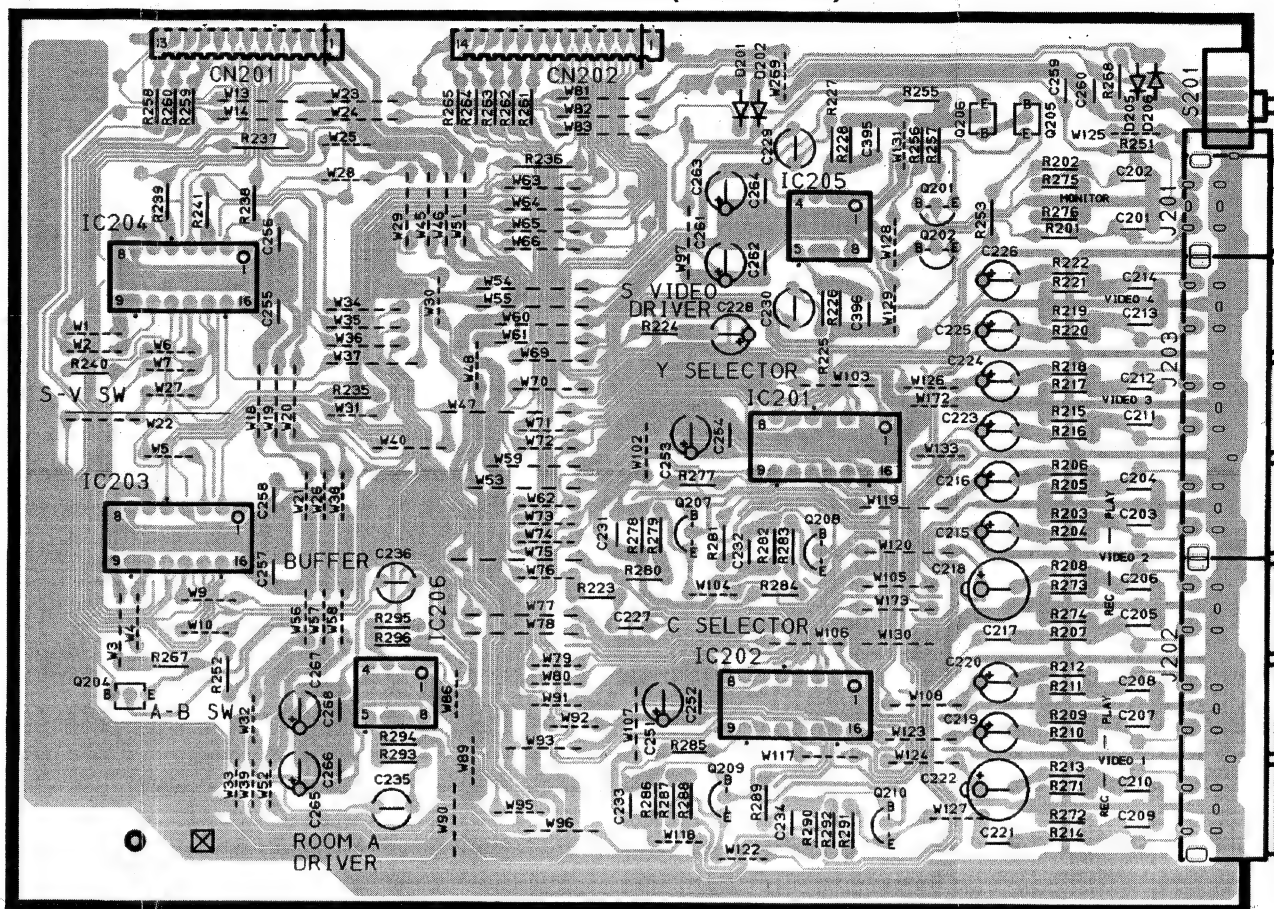
DISPLAY UNIT (X14-430X-XX)

0-10: KPY(only 1090VR)

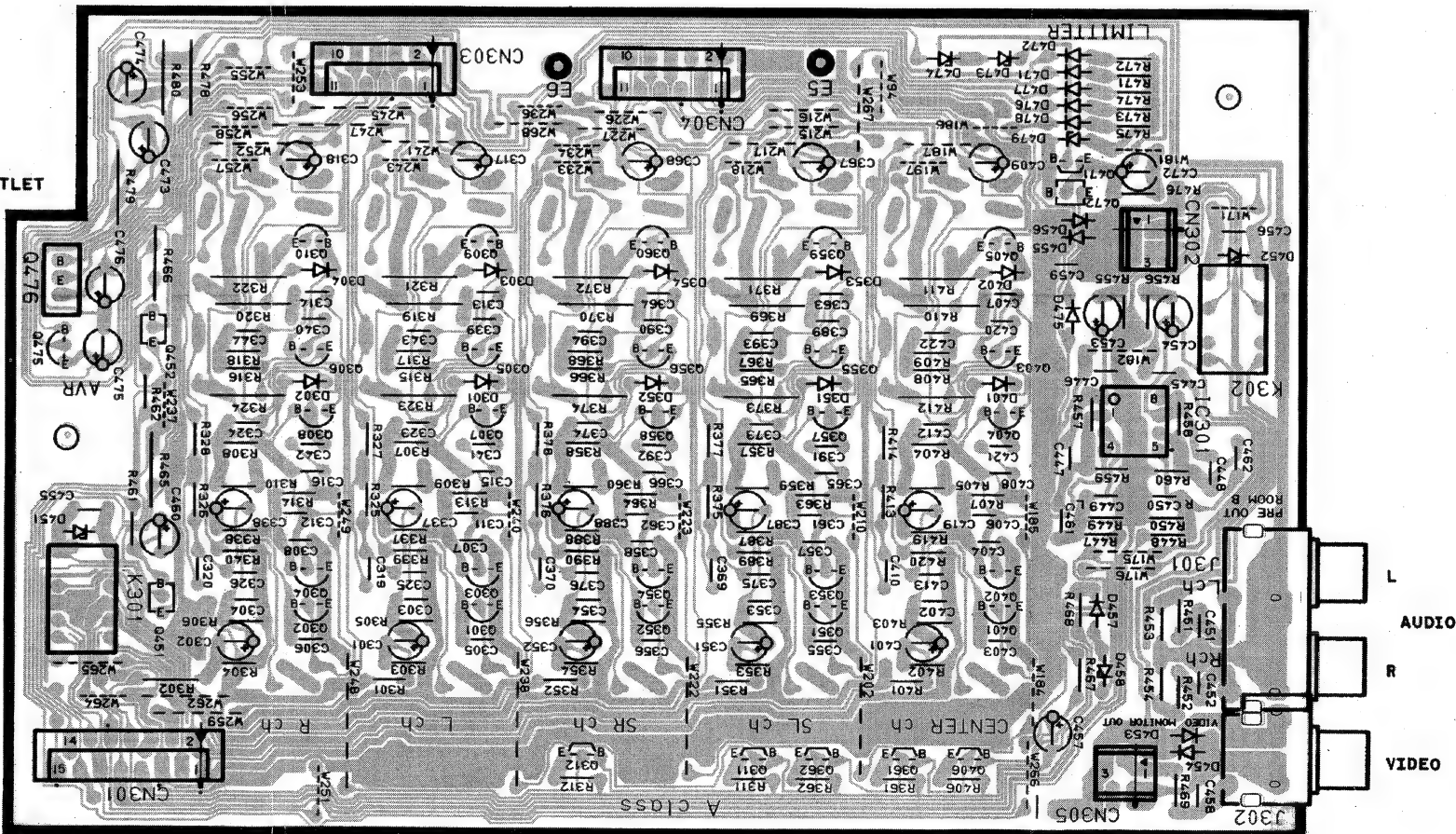
0-21: CM(KR-V999D)

2-71: EQT(KR-V999D)

X14 C/5



X14 E/5



PC BOARD(Component side view)

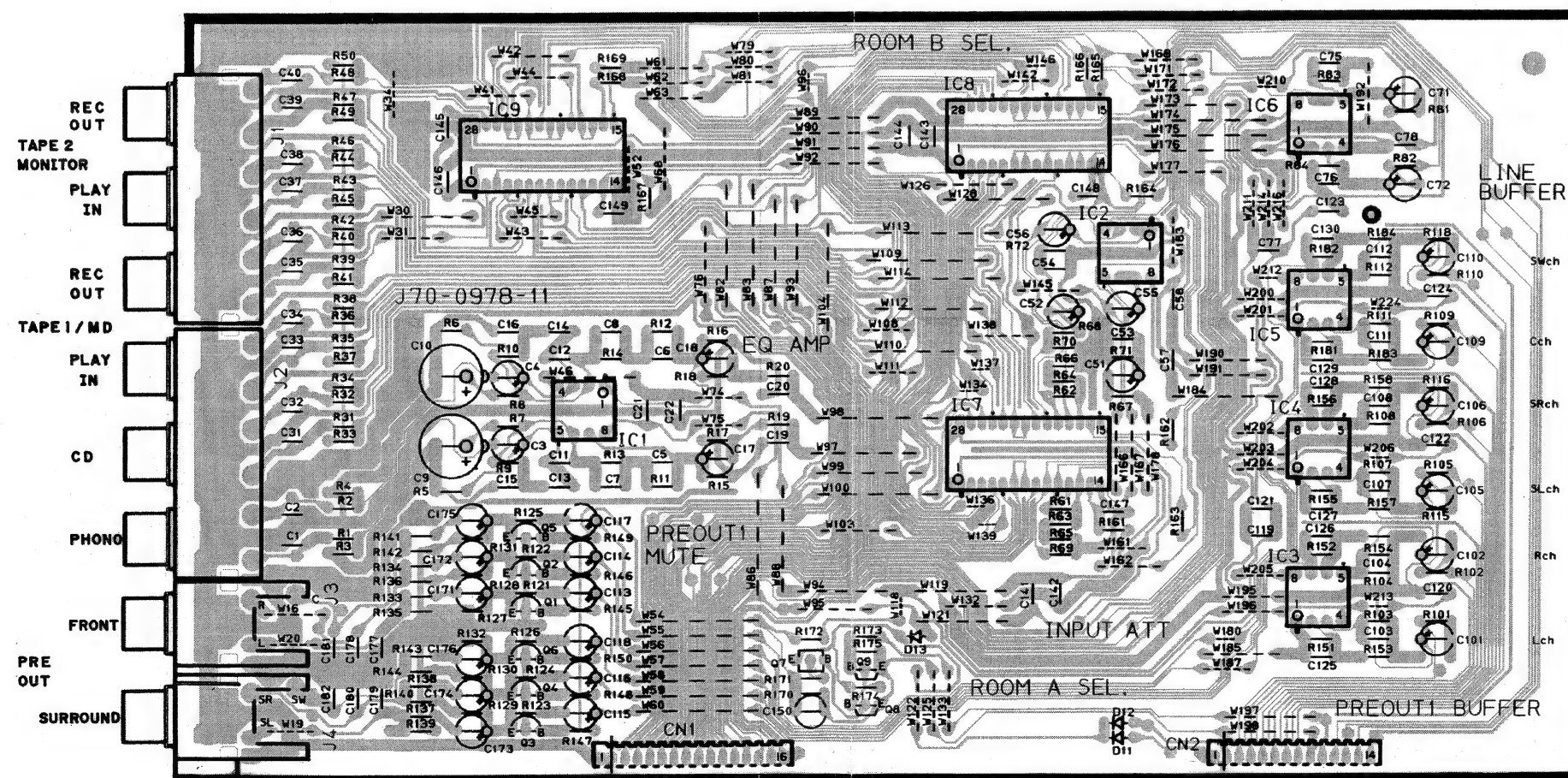
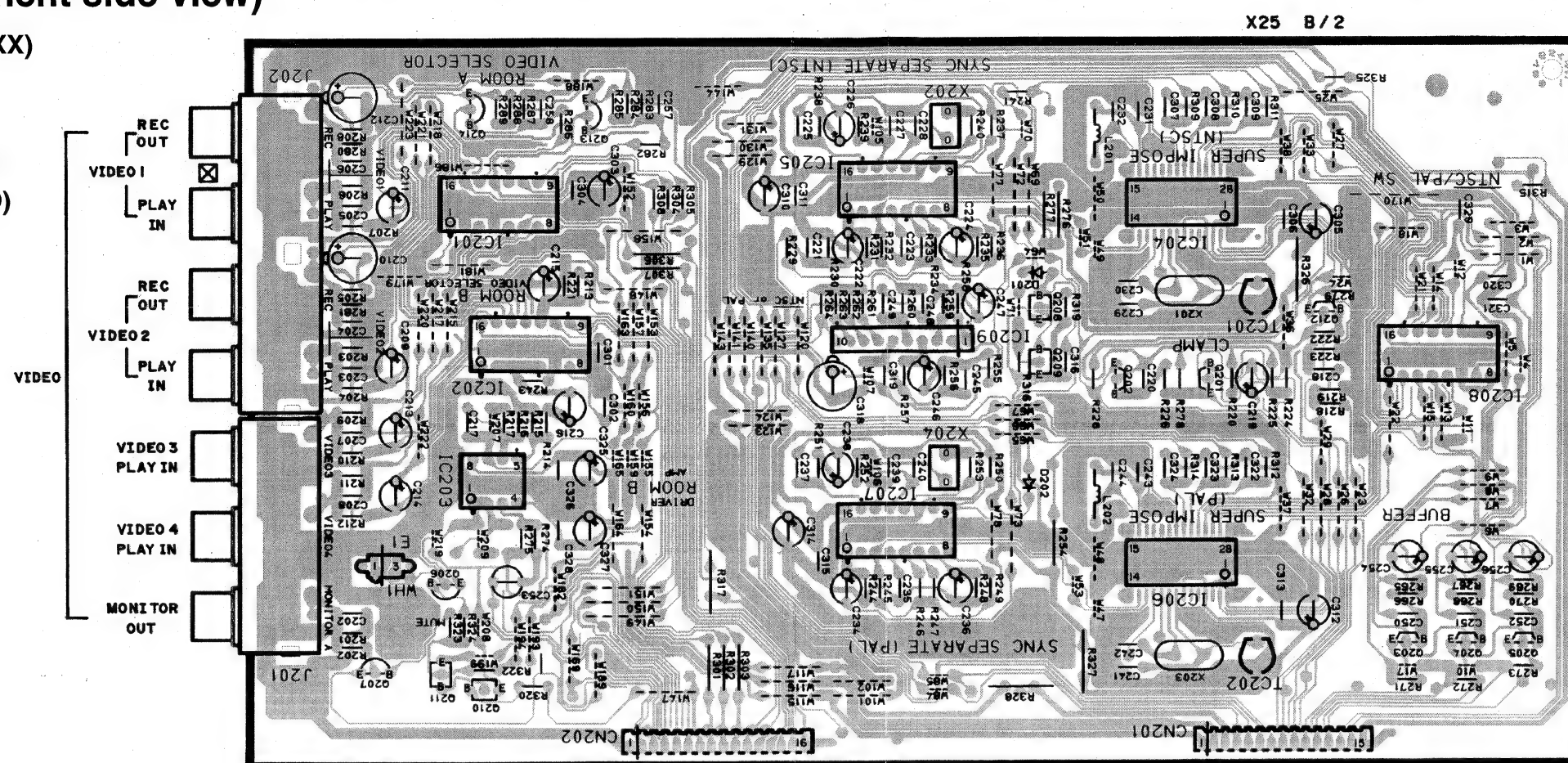
SWITCH UNIT(X25-588X-XX)

0-10: KP(1090VR)

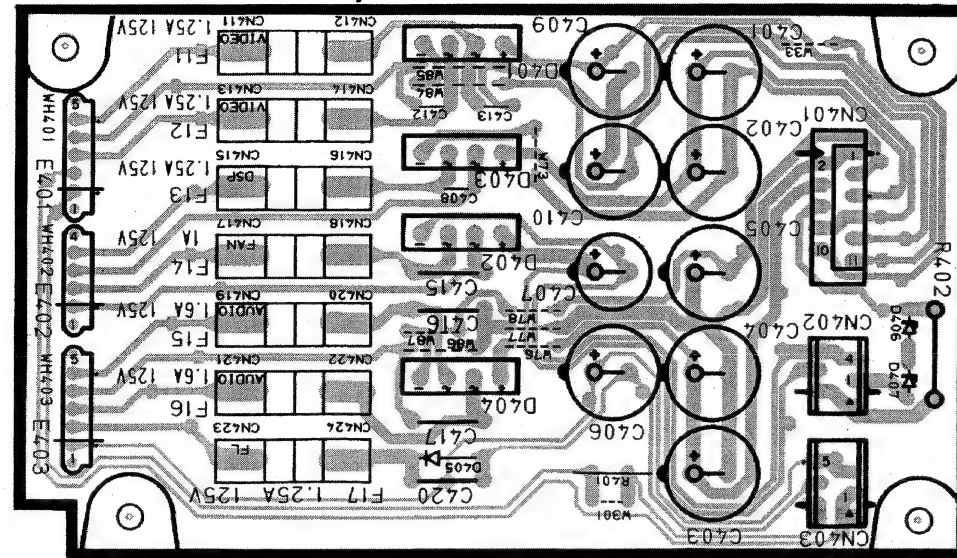
0-21: Y(1090VR)

CM(KR-V999D)

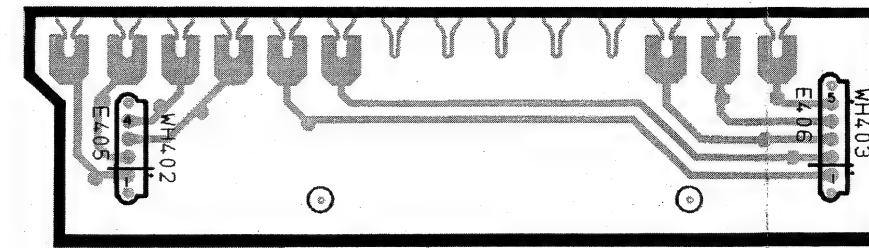
2-71: EQT(KR-V999D)



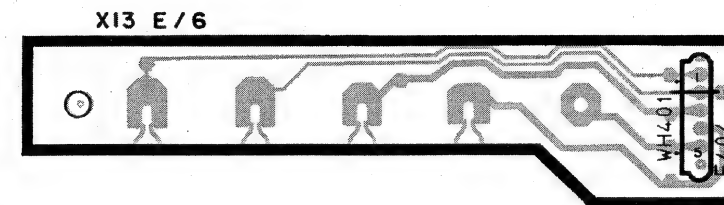
0-10: KP(1090)
0-21: C(KR-V999D)
2-71: ET(KR-V999D)
2-91: Y(1090VR)
3-81: Q(KR-V999D)



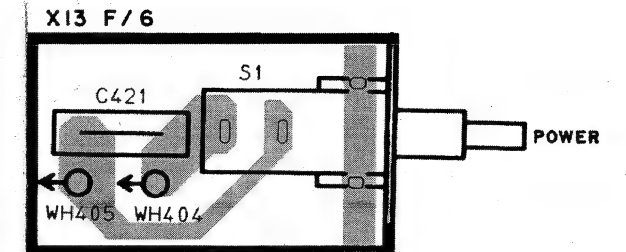
X13 B/6



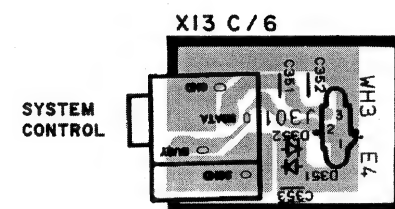
X13 D/6



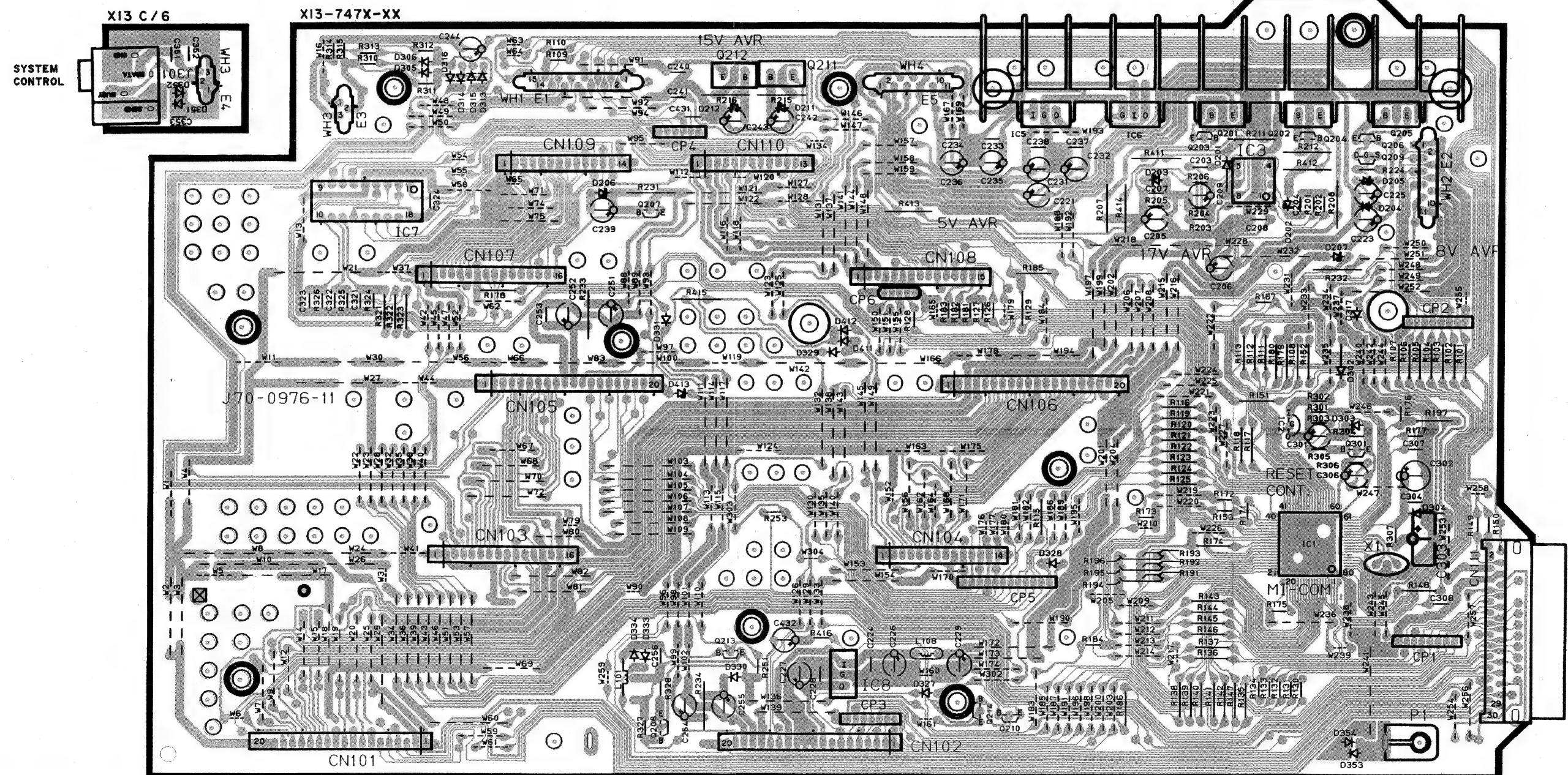
X13 E / 6



X13 F/6



X13 C / 6

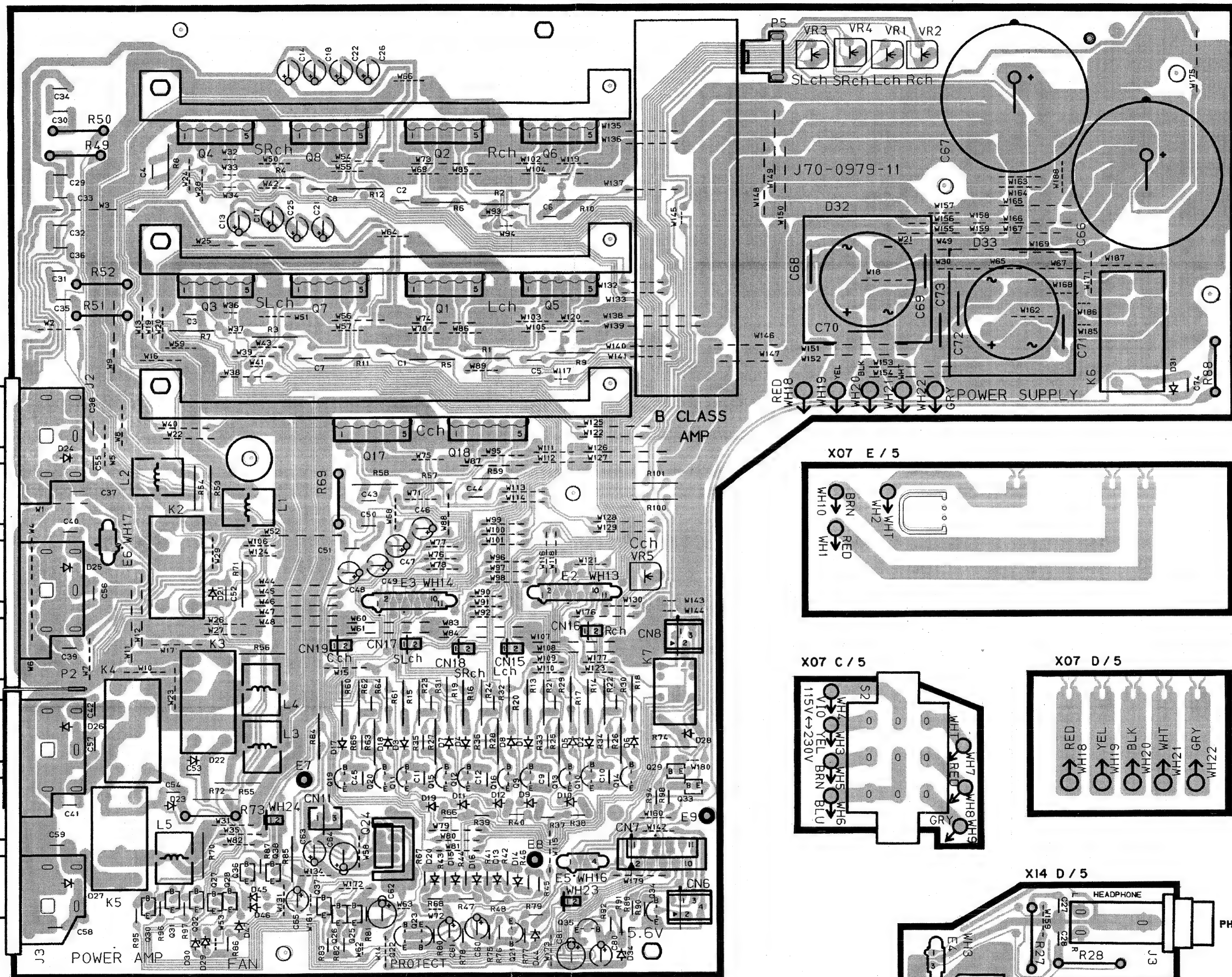
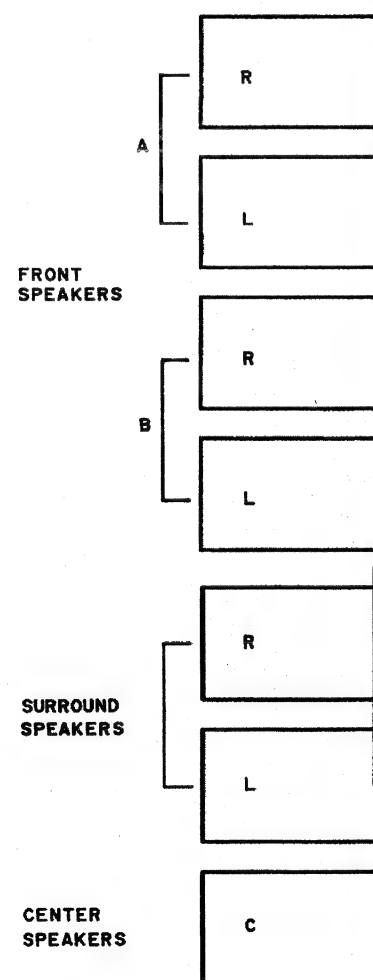


X13-747X-XX

PC BOARD(Component side view)

POWER AMPLIFIER UNIT (X07-290X-XX)

- 0-10: KP(1090VR)
- 0-21: M(KR-V999D)
- 0-51: T(KR-V999D)
- 2-71: E(KR-V999D)
- 2-91: Y(1090VR)
- 3-01: C(KR-V999D)
- 3-81: Q(KR-V999D)



X07-290X-XX A / 5

X07 E / 5

X07 C / 5

X07 D / 5

X14 D / 5

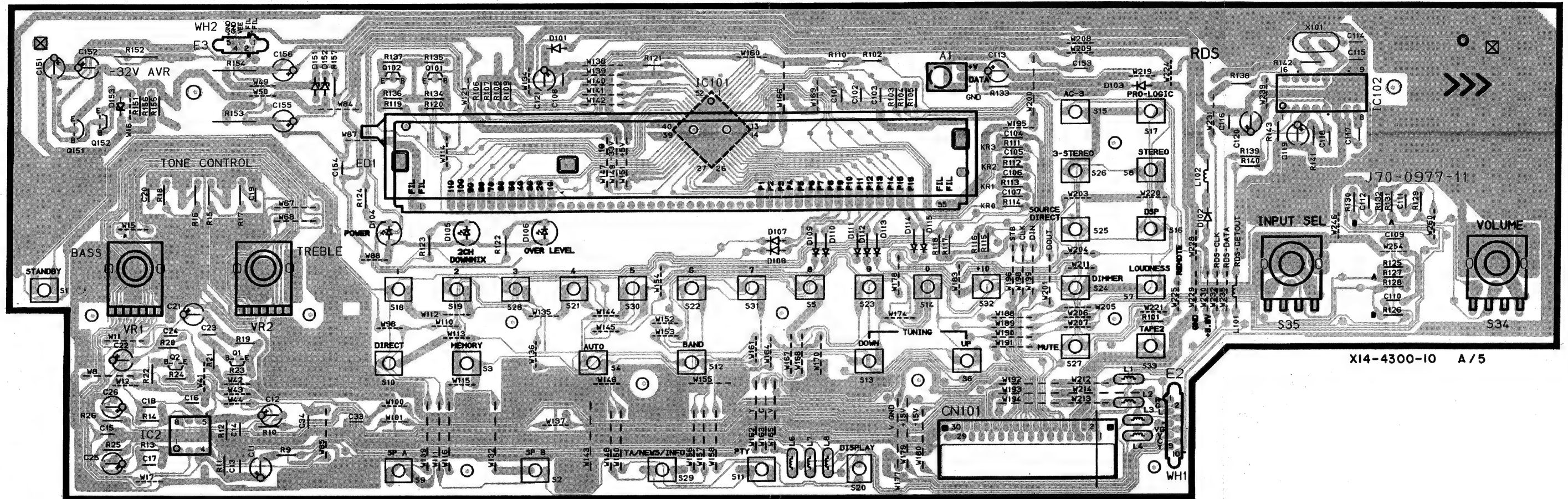
PC BOARD(Component side view)

DISPLAY UNIT(X14-430X-XX)

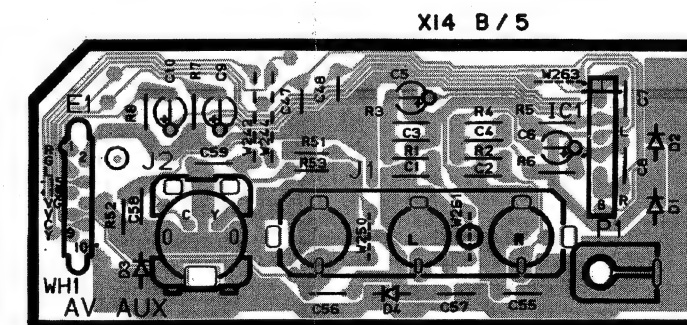
0-10: KPY(only 1090VR)

0-21: CM(KR-V999D)

2-71: EQT(KR-V999D)



X14-4300-10 A / 5



S-VIDEO VIDEO AUDIO
 L AV AUX

A

B

C

D

E

F

G

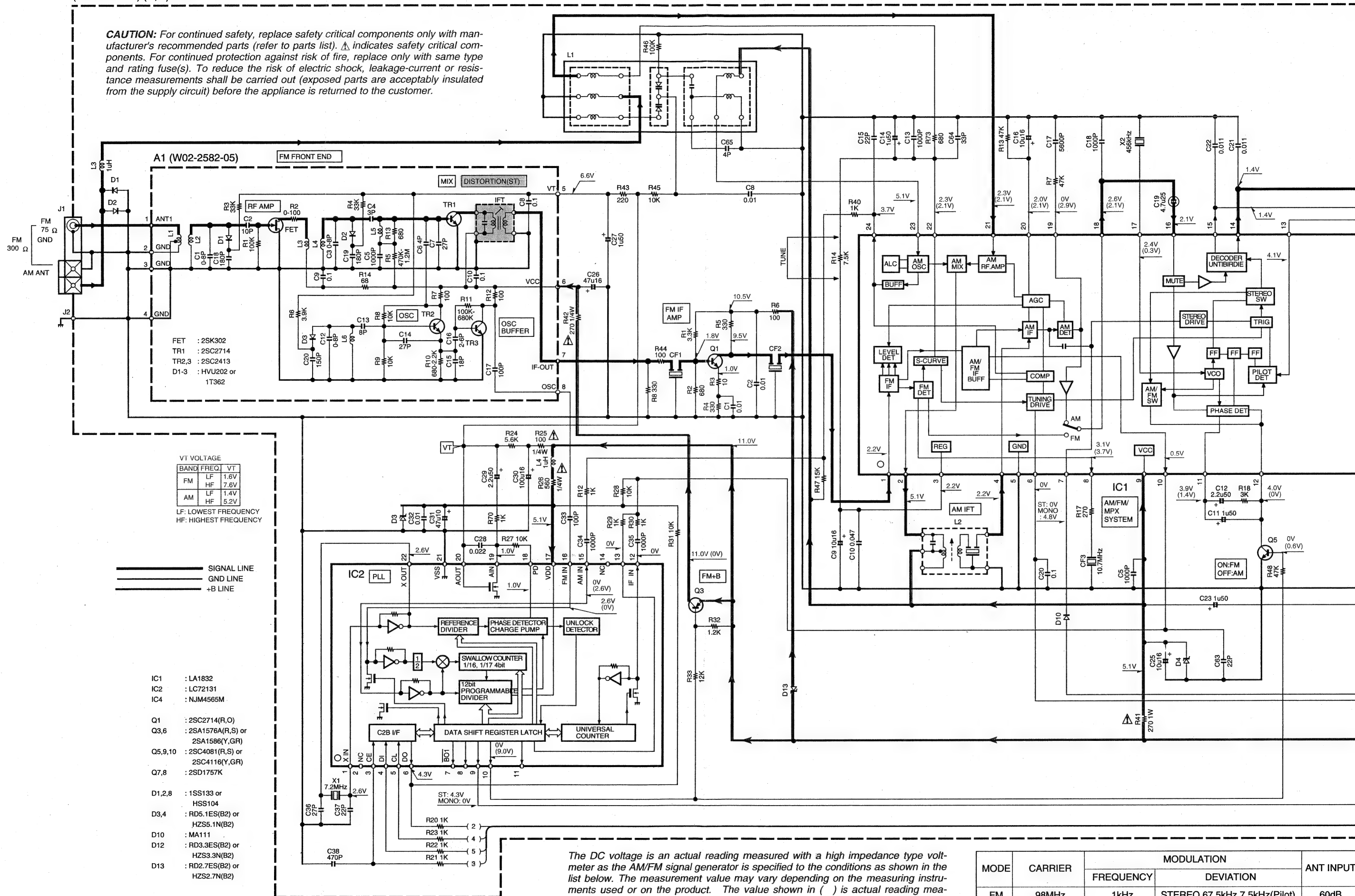
H

I

J

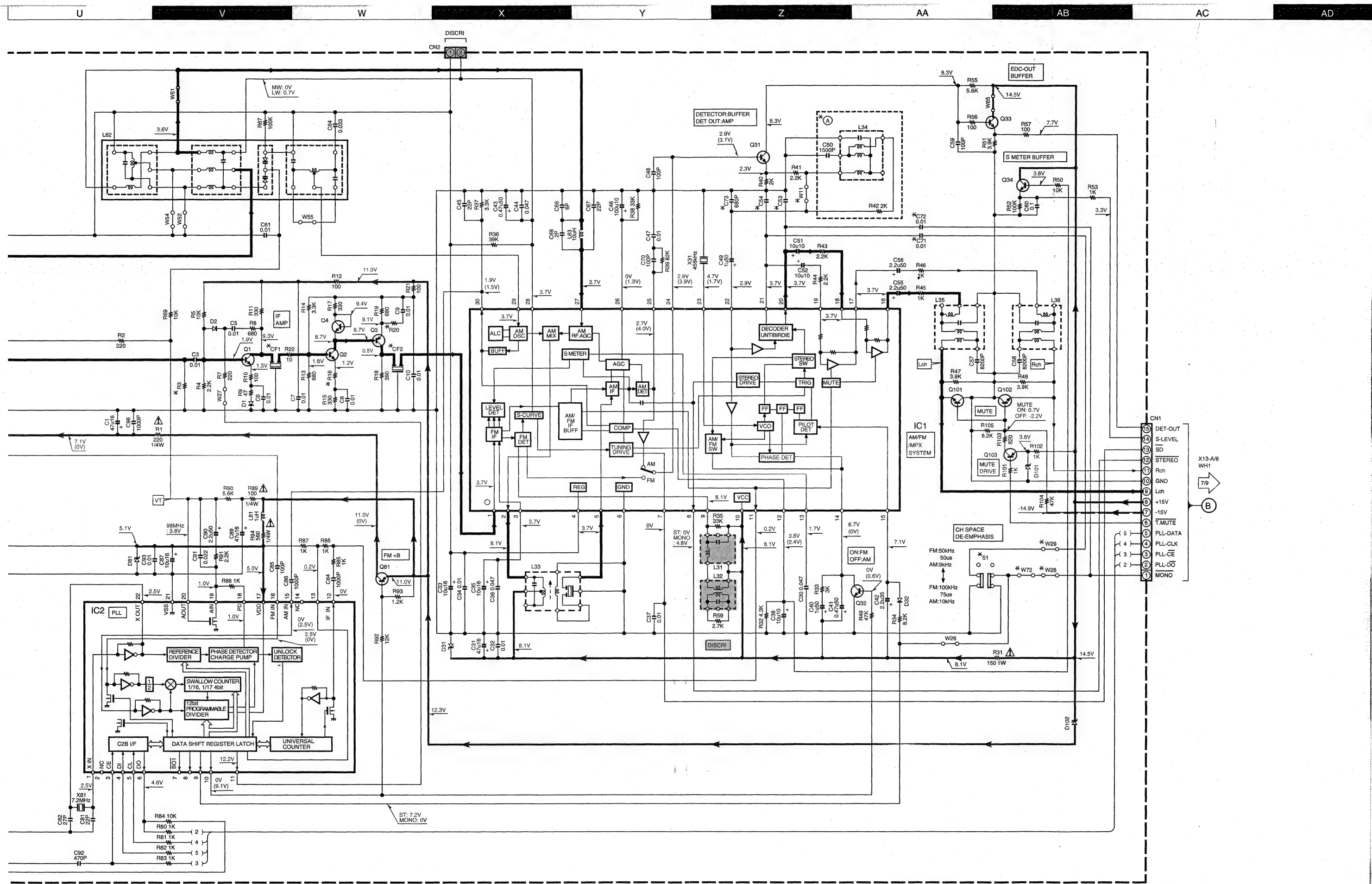
(X05-4670-20) (C,M) TYPE

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



The DC voltage is an actual reading measured with a high impedance type voltmeter as the AM/FM signal generator is specified to the conditions as shown in the list below. The measurement value may vary depending on the measuring instruments used or on the product. The value shown in () is actual reading measured in the AM mode.

MODE	CARRIER	MODULATION		ANT INPUT
		FREQUENCY	DEVIATION	
FM	98MHz	1kHz	STEREO 67.5kHz 7.5kHz(Pilot)	60dB
AM	1000(999)kHz	400Hz	MONO 30% MOD	60dB

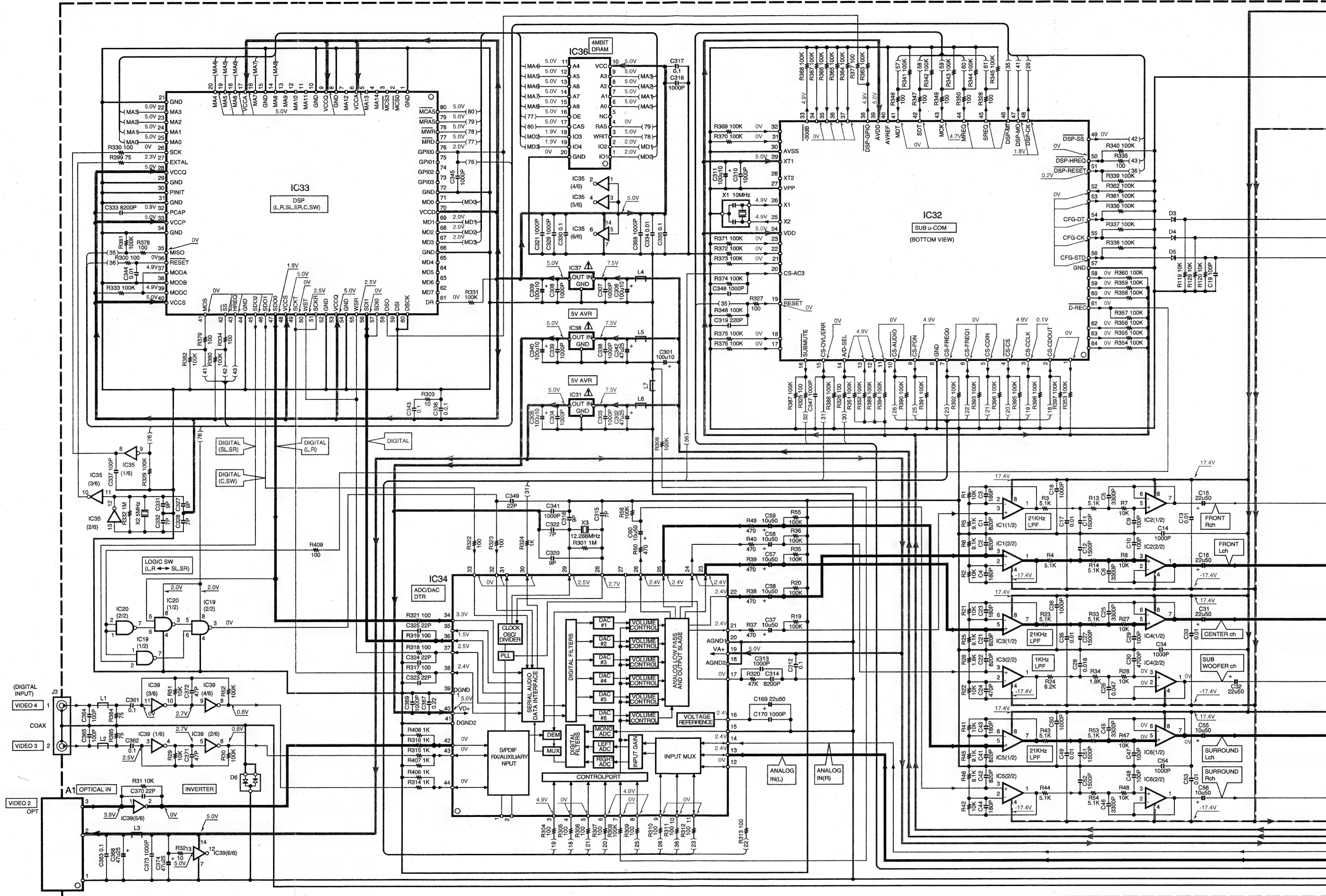


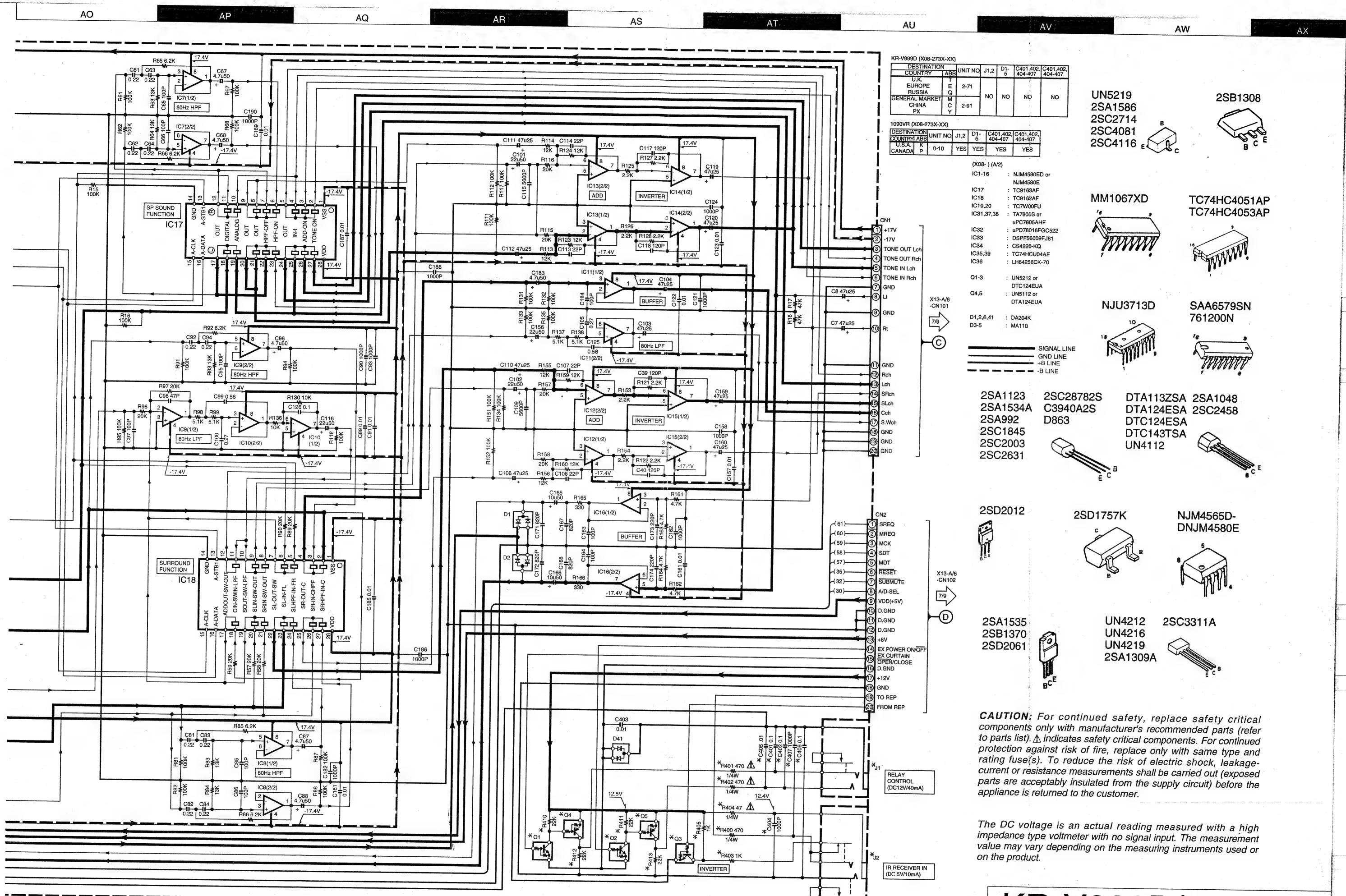
KR-V999D,1090VR(K) (2/9)

Y05-3300-10

KR-V999D/1090VR
KENWOOD

(X08-273X-XX) (A/2)





KR-V999D (X08-273X-XX)

DESTINATION	COUNTRY	ABB	UNIT NO	J1,2	D1-5	C401,402,404-407	C401,402,404-407
U.K.	EUROPE	Y	2-71	NO	NO	NO	NO
RUSSIA	GENERAL MARKET	E	2-91	NO	NO	NO	NO
CHINA	PX	C					

1090VR (X08-273X-XX)

DESTINATION	COUNTRY	ABB	UNIT NO	J1,2	D1-5	C401,402,404-407	C401,402,404-407
U.S.A.	K	P	0-10	YES	YES	YES	YES
CANADA	P						

UN5219
2SA1586
2SC2714
2SC4081
2SC4116

2SB1308

MM1067XD
TC74HC4051AP
TC74HC4053AP

NJU3713D
SAA6579SN
761200N

2SA1123
2SA1534A
2SA992
2SC1845
2SC2003
2SC2631

2SC28782S
C3940A2S
D863

DTA113ZSA
DTA124ESA
DTC124ESA
DTC143TSA
UN4112

2SA1048
2SC2458

2SD2012

2SD1757K

NJM4565D-
DNJM4580E

2SA1535
2SB1370
2SD2061

UN4212
UN4216
UN4219
2SA1309A

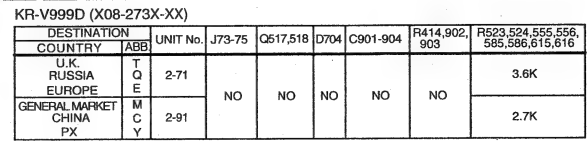
2SC3311A

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

KR-V999D,1090VR(K) (3/9)
Y05-3300-10

KR-V999D/1090VR
KENWOOD



CC

CD

CE

CF

CG

CH

CI

CJ

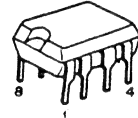
CK

CL

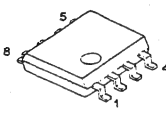
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

MC14577CP
NJM4580DNJ
M4580D-D



NJM4565M
NJM4580ED
TC7W00FU



UPC7805AHF



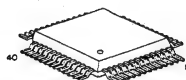
DA204K



UN5212



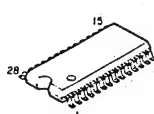
UPD16311



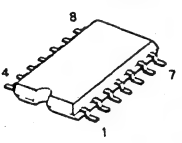
2SK246



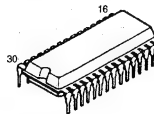
TC9162AF
TC9163AF



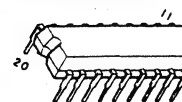
TC74HCU04AF



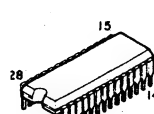
LA1836



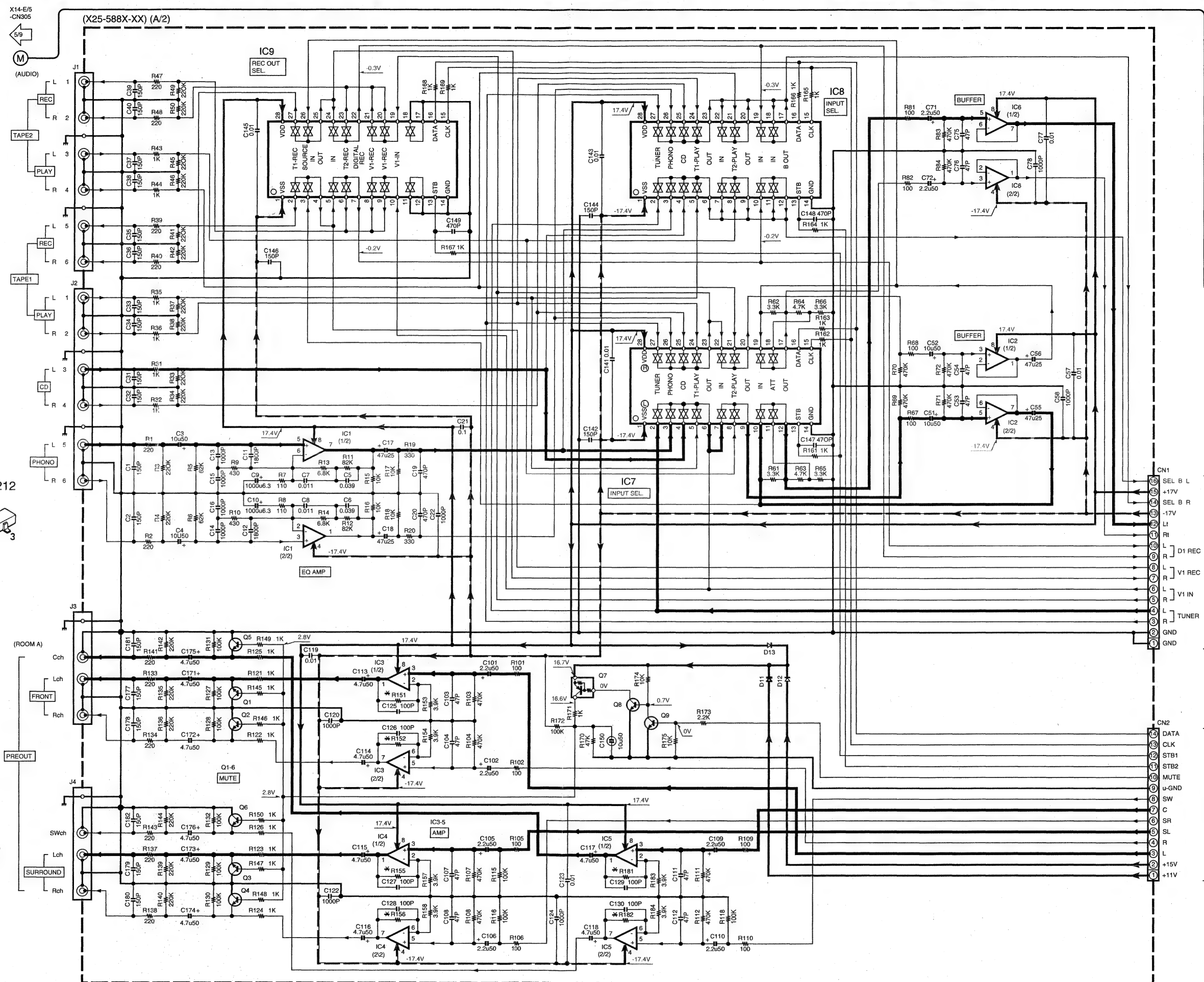
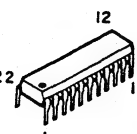
TC9412APA



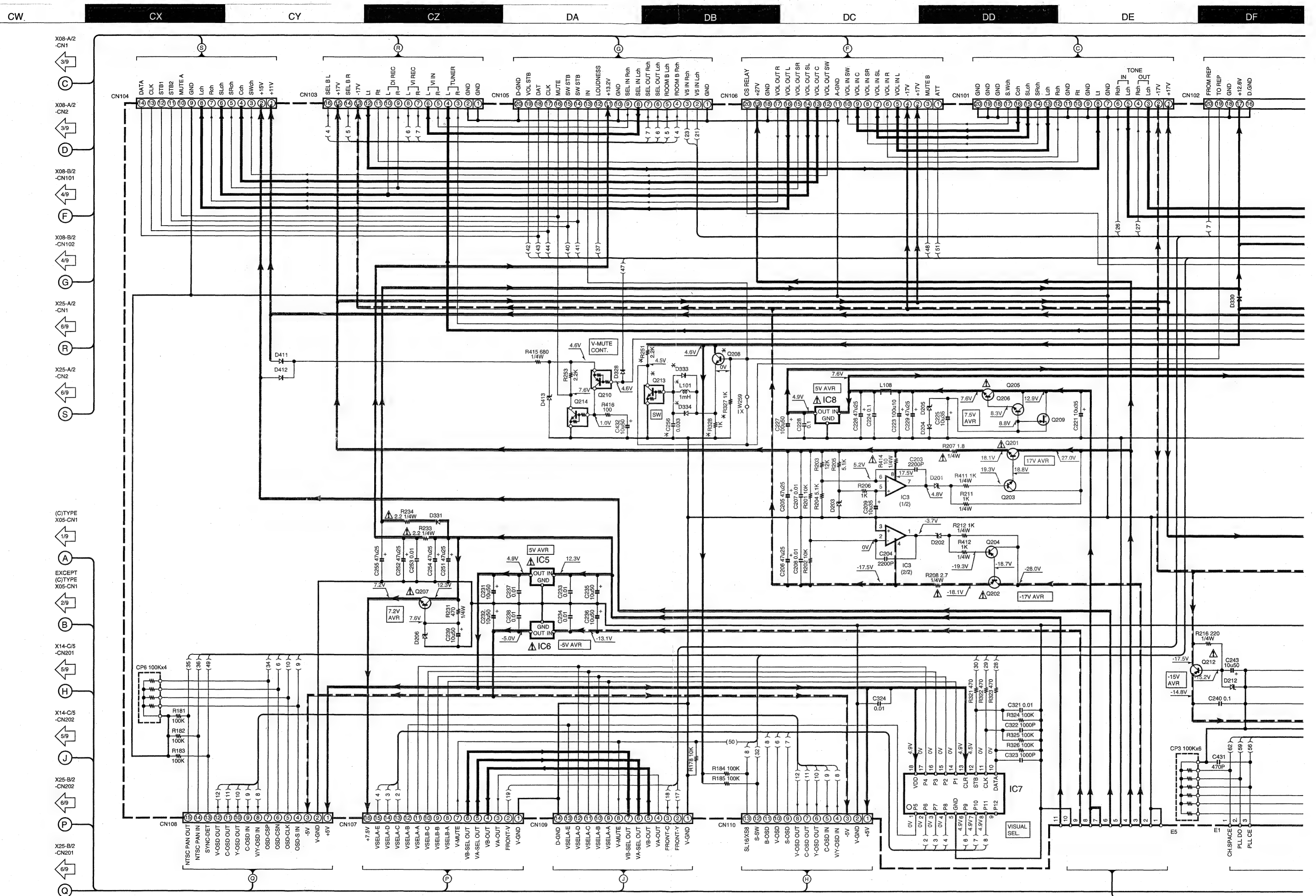
TC9162N
TC9164N



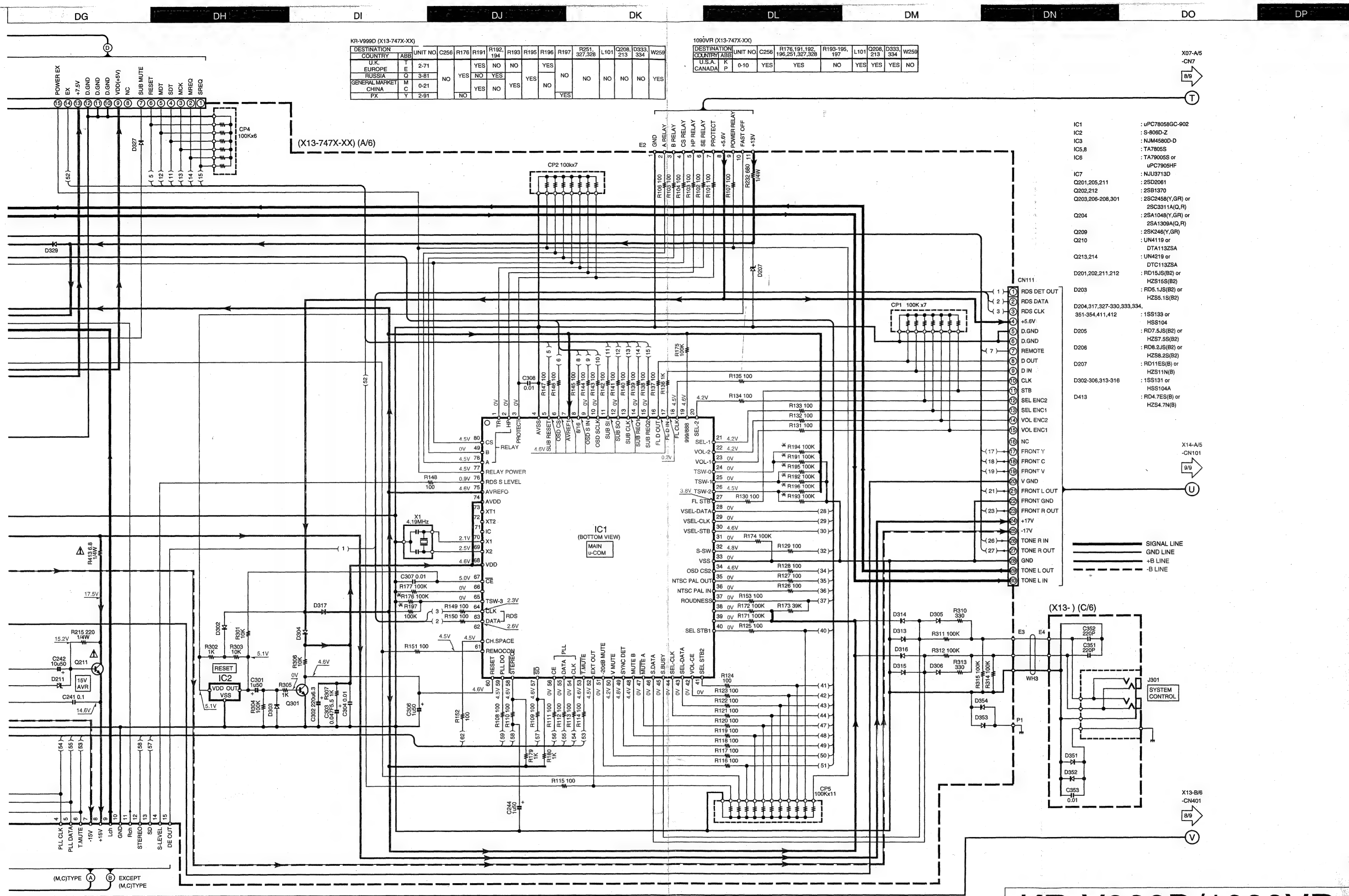
LC72131



KENWOOD



The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.



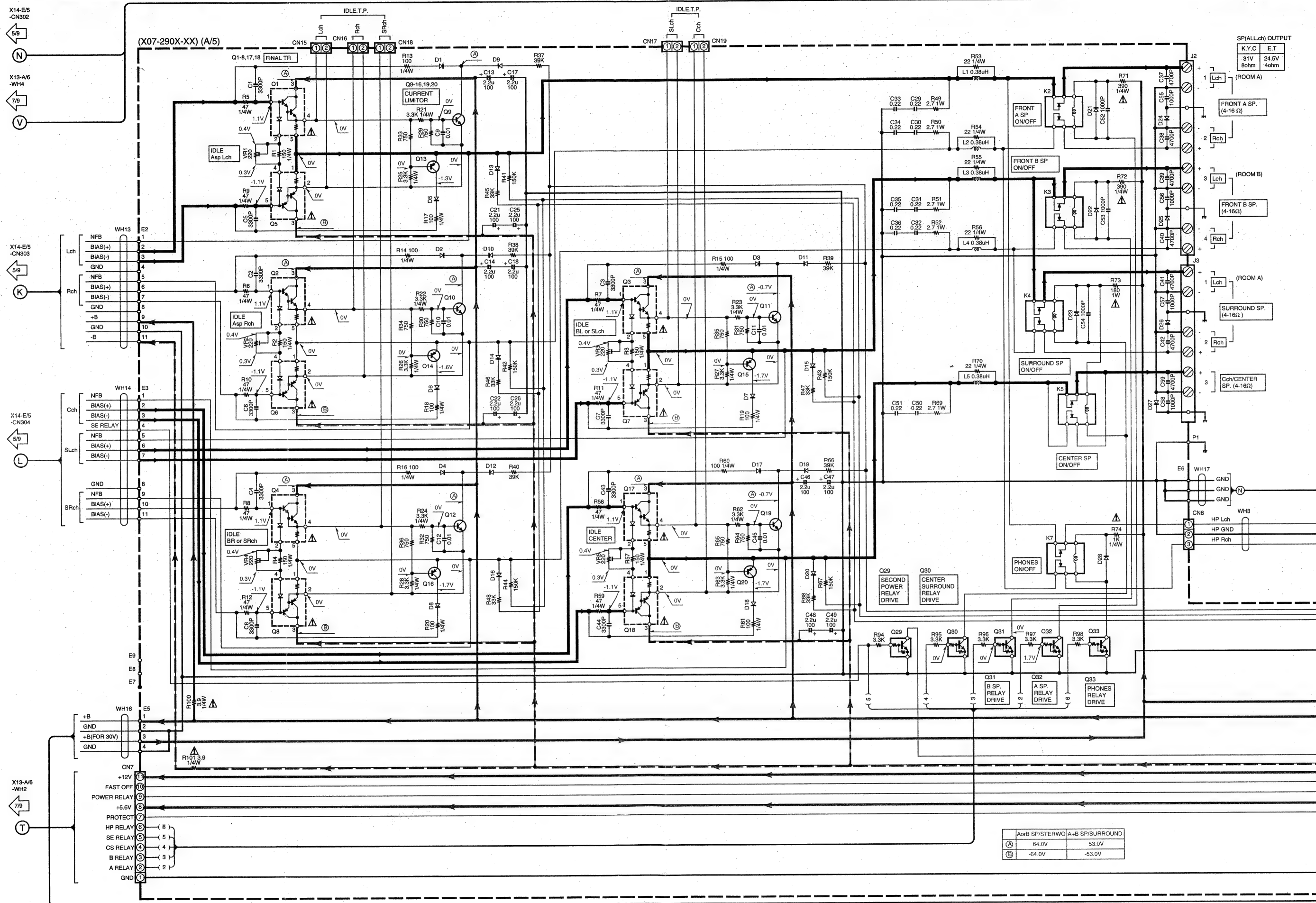
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KR-V999D,1090VR(K) (7/9)

Y05-3300-10

KR-V999D/1090VR

KENWOOD



KR-V999D (X07-290X-XX)

DESTINATION	COUNTRY	ABB	UNIT No.	F1	F2	F3	T1	J1	R93	WH1	WH2	W181	W182	W183	CN5	CN14	P3,4	CN3,4	K1
GENERAL MARKET	U.K.	M	0-21		T3.15AL 250V		L07-0865-05	E03-0149-05									YES	YES	
CHINA	C	3-01			NO		L07-2114-05	E03-0330-05					YES				NO	NO	
PX	Y	2-91			T3.15AL 250V		L07-0865-05	E03-0149-05									NO	YES	
U.K.	T	0-51					L07-0867-05	E03-0310-05									NO	NO	
EUROPE	E	2-71			NO		L07-0867-05	E03-0310-05									NO	NO	
RUSSIA	Q	3-81					L07-2114-05	E03-0149-05						YES			YES	YES	S76-0070-05 TV-5

KR-V999D (X13-747X-XX)

DESTINATION	COUNTRY	ABB	UNIT No.	C421	R401	W30	WH404	F11-13	F14	F15	S1
U.K.	Y	2-71					405	F11-13, 17			
GENERAL MARKET	M	0-21		YES	NO	YES	YES	T1.25A L 250V	T500mA L 250V	T1.6A L 250V	YES
CHINA	C	3-01									
RUSSIA	Q	3-81									
PX	Y	2-91		NO			NO				NO

1090VR (X07-290X-XX)

DESTINATION	COUNTRY	ABB	UNIT No.	F1	F2	F3	T1	J1	R93	WH1	WH2	W181	W182	W183	CN5	CN14	P3,4	CN3,4	K1
U.S.A.	K	0-10		10A 125V	NO	NO	L07-0864-05	E03-0148-05	YES	E35-1426-05	E35-1828-05	YES	YES	YES	YES	NO	NO	NO	S76-0065-05 TV-8
CANADA	P	0-10																	

1090VR (X13-747X-XX)

DESTINATION	COUNTRY	ABB	UNIT No.	C421	R401	W30	WH404	F11-13	F14	F15	S1
U.S.A.	K	0-10		NO	YES	NO	NO	1.25A 125V	1A 125V	1.6A 125V	NO
CANADA	P	0-10									

(X07-)
Q1-4,17
Q5-8,18
Q9-12,19
Q13-16,20,21
Q22,23
Q24
Q25,37
Q26,27,29,33
Q28,36,38
Q34
Q35

TRANS4N 5*
TRANS4P 5*
2S2631(R,S)
2S1845(F,E)
2S2061(E,F) or 2SD2012
UM216 or DTC143TSA
UM219 or DTC113ZSA
UM212 or DTC124ESA
2S2003(L,K)
2S3940A(R,S) or 2SD863(E,F)

D1-28,31,35-37,
43,45-47
D29
D30
D32,33
D34
D38-41,405
D42
D44
D401-404
D406,407

1SS131 or HSS104A
RD11ES(B2) or HZS11N(B2)
RD15ES(B2) or HZS15N(B2)
DSF820-4002-L2
RD6.2ES(B2) or HZS6.2N(B2)
SS688B or 1SR139-400
RD2.7ES(B2) or HZS2.7N(B2)
RD5.1JS(B2) or HZS5.1S(B2)
1B4B41
RD7.5JS(B) or HZS7.5S(B)

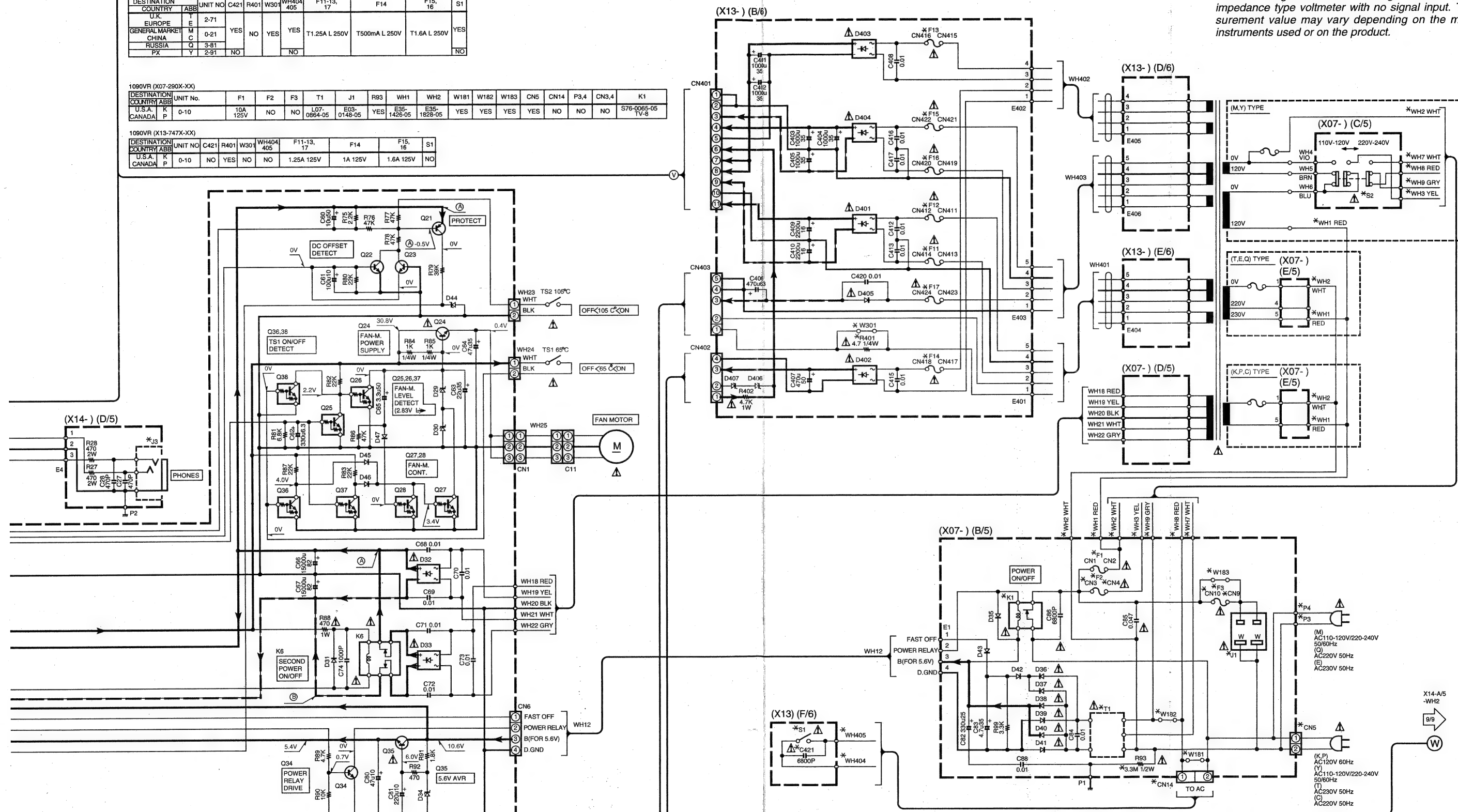
(X13-)
D401-404
D405
D406,407

1B4B41
SS688B or 1SR139-400
RD7.1JS(B) or HZS7.1S(B)

SIGNAL LINE
GND LINE
+B LINE
-B LINE

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.



KR-V999D,1090VR(K) (8/9)

Y05-3300-10

KR-V999D/1090VR

KENWOOD

KR-V999D/1090VR

PARTS LIST

22

L : Scandinavia
Y : PX(Far East, Hawaii)
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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation
D201,202			RD15J(S,B)	ZENER DIODE	KP
D203			HZ55.1S(B2)	ZENER DIODE	
D204			RD5.1S(B2)	ZENER DIODE	
D205			HSS104A	DIODE	
D206			1SS131	DIODE	KP
D207			HZ58.2S(B2)	ZENER DIODE	
D208			RD8.2J(S,B2)	ZENER DIODE	
D209			HZ57.5S(B)	ZENER DIODE	
D210			RD7.5J(S,B)	ZENER DIODE	KP
D211			HZ51.1N(B)	ZENER DIODE	
D212			RD11ES(B)	ZENER DIODE	
D213			HZ51S(B)	ZENER DIODE	
D302-306			1SS131	DIODE	KP
D313-317			HSS104	DIODE	
D327-331			HSS104	DIODE	
D327-331			HSS104	DIODE	
D333,334			HSS104	DIODE	KP
D333,334			1SS133	DIODE	
D351-354			HSS104	DIODE	
D351-354			HSS104	DIODE	
D401-404			S5688B	DIODE	KP
D405			1SR139-400	DIODE	
D406,407			HZ57.5S(B)	ZENER DIODE	
D411,412			HSS104	DIODE	
D411,412			1SS133	DIODE	KP
D413			HZ54.7N(B)	ZENER DIODE	
D413			RD4.7ES(B)	ZENER DIODE	
IC1		*	UPD780583C-902	MI-COM IC	
IC2			S-908D-Z	ANALOGUE IC	
IC3			NJM4580D-D	IC(OP AMP X2)	KP
IC5			TA7805S	IC(VOLTAGE REGULATOR/ +5V)	
IC6			UPC7805AHF	ANALOGUE IC	
IC7			TA7805S	IC(VOLTAGE REGULATOR/ -5V)	
IC8			TA7805S	IC(VOLTAGE REGULATOR/ +5V)	KP
IC8			UPC7805AHF	ANALOGUE IC	
Q201			2SD2061	TRANSISTOR	
Q202			2SD1370	DIGITAL TRANSISTOR	
Q203			2SC2458(Y,GR)	TRANSISTOR	KP
Q204			2SC3311A(Q,R)	TRANSISTOR	
Q205			2SA1048(Y,GR)	TRANSISTOR	
Q206,207			2SD2061	TRANSISTOR	
Q206,207			2SC2458(Y,GR)	TRANSISTOR	KP
Q208			2SC3311A(Q,R)	TRANSISTOR	
Q209			2SC2458(Y,GR)	TRANSISTOR	
Q210			DTA113ZSA	FET	
Q210			UN4119	DIGITAL TRANSISTOR	KP
Q210			UN4119	DIGITAL TRANSISTOR	
Q210			UN4119	DIGITAL TRANSISTOR	
Q210			UN4119	DIGITAL TRANSISTOR	

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KR-V999D/1090VR

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation
C402		*	CC45FSL1H271JN	CERAMIC	J
C403,404		*	CC45FSL1H101JN	CERAMIC	
C406		*	CC45FSL1H222JN	CERAMIC	
C407		*	CC45FSL1H820JN	CERAMIC	
C408		*	CC45FSL1H121JN	CERAMIC	J
C409		*	CC45FSL1H220JN	CERAMIC	
C410		*	CC45FSL1H220JN	CERAMIC	
C412		*	CC45FSL1H103JN	CERAMIC	
C413		*	CC45FSL1H151JN	CERAMIC	J
C419		*	CC45FSL1H101M	CERAMIC	
C420		*	CC45FSL1H820JN	CERAMIC	
C421		*	CC45FSL1H121JN	CERAMIC	
C422		*	CC45FSL1H103JN	CERAMIC	J
C445		*	CC45FSL1H103JN	CERAMIC	
C446		*	CC45FSL1H102JN	CERAMIC	
C447,450		*	CC45FSL1H101JN	CERAMIC	
C451,452		*	CC45FSL1H391KMM	CERAMIC	J
C453,454		*	CC45FSL1H393M	CERAMIC	
C455,456		*	CC45FSL1H102JN	CERAMIC	
C457		*	CC45FSL1H102JN	CERAMIC	
C458		*	CC45FSL1H151JN	CERAMIC	J
C459		*	CC45FSL1H103ZMM	CERAMIC	
C460		*	CC45FSL1H220JN	CERAMIC	
C461,462		*	CC45FSL1H102KMM	CERAMIC	
C472		*	CC45FSL1H101M	CERAMIC	J
C473-476		*	CC45FSL1H220JN	CERAMIC	
CN101		*	E40-4796-05	PIN ASSY	
CN201		*	E40-9829-05	SOCKET FOR PIN ASSY	
CN202		*	E40-9830-05	SOCKET FOR PIN ASSY	J
CN301		*	E40-4609-05	PIN ASSY	
CN302		*	E40-4293-05	FLAT CABLE CONNECTOR	
CN303,304		*	E40-4808-05	PIN ASSY	
CN305		*	E40-4293-05	FLAT CABLE CONNECTOR	J
J1		*	E63-0129-05	PHONE JACK	
J2		*	E56-0012-05	CYLINDRICAL RECEPTACLE	
J3		*	E11-0271-05	PHONE JACK	
J3		*	E11-0272-05	PHONE JACK	MCTEQ
J201		*	E56-0014-05	CYLINDRICAL RECEPTACLE	
J202,203		*	E56-0011-05	CYLINDRICAL RECEPTACLE	
J301		*	E63-0095-05	PHONE JACK	
J302		*	E63-1005-05	PHONE JACK	KPY
CN111		*	J19-5628-03	HOLDER	
E5_6		*	J11-0808-05	WIRE CLAMPER	
L1_4		*	L92-0044-05	FERRITE CORE	KPYTEQ
L6_8		*	L92-0044-05	FERRITE CORE	
L101		*	L40-1091-17	SMALL FIXED INDUCTOR(10UH)	
L102		*	L40-1001-17	SMALL FIXED INDUCTOR(10UH,K)	
X101		*	L77-2200-05	CRYSTAL RESONATOR(4.332MHZ)	KPYTEQ
R27_28		*	RS14KB3D471JFR	FL-PROOF RS	
R152		*	RD14NB2E103J	RD	
R153,154		*	RD14NB2E271J	RD	
R319-322		*	RD14NB2E271J	RD	KPYTEQ
R323,324		*	RD14NB2E181J	RD	
R323,324		*	RD14NB2E181J	RD	
R323,324		*	RD14NB2E181J	RD	

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation
C222			CE04KW1C331M	ELECTRO	16WV
C223			CE04KW1H4R7M	ELECTRO	
C224			CE04KW1V4R7M	ELECTRO	
C225			CE04KW1H4R7M	ELECTRO	
C226			CE04KW1V4R7M	ELECTRO	J
C227			CE04KW1H4R7M	ELECTRO	
C228			CE04KW1H4R7M	ELECTRO	
C229,230			CE04KW1H4R7M	ELECTRO	
C231,234		*	CE04KW1H4R7M	ELECTRO	J
C235,236		*	CE04KW1H4R7M	ELECTRO	
C251		*	CE04KW1H4R7M	ELECTRO	
C252		*	CE04KW1H4R7M	ELECTRO	
C253		*	CE04KW1H4R7M	ELECTRO	J
C254,258		*	CE04KW1H4R7M	ELECTRO	
C259		*	CE04KW1H4R7M	ELECTRO	
C260		*	CE04KW1H4R7M	ELECTRO	
C261		*	CE04KW1H4R7M	ELECTRO	J
C262		*	CE04KW1H4R7M	ELECTRO	
C263		*	CE04KW1H4R7M	ELECTRO	
C264		*	CE04KW1H4R7M	ELECTRO	
C265		*	CE04KW1H4R7M	ELECTRO	J
C266		*	CE04KW1H4R7M	ELECTRO	
C267		*	CE04KW1H4R7M	ELECTRO	
C268		*	CE04KW1H4R7M	ELECTRO	
C301_302		*	CE04KW1H4R7M	ELECTRO	J
C303,304		*	CE04KW1H4R7M	ELECTRO	
C305-308		*	CE04KW1H4R7M	ELECTRO	
C311,312		*	CE04KW1H4R7M	ELECTRO	
C313,314		*	CE04KW1H4R7M	ELECTRO	J
C315,316		*	CE04KW1H4R7M	ELECTRO	
C317,318		*	CE04KW1H4R7M	ELECTRO	
C319,320		*	CE04KW1H4R7M	ELECTRO	
C323,324		*	CE04KW1H4R7M	ELECTRO	J
C325,326		*	CE04KW1H4R7M	ELECTRO	
C327,328		*	CE04KW1H4R7M	ELECTRO	
C329,330		*	CE04KW1H4R7M	ELECTRO	
C339,340		*	CE04KW1H4R7M	ELECTRO	J
C341,342		*	CE04KW1H4R7M	ELECTRO	
C343,344		*	CE04KW1H4R7M	ELECTRO	
C351,352		*	CE04KW1H4R7M	ELECTRO	
C353,354		*	CE04KW1H4R7M	ELECTRO	J
C355-358		*	CE04KW1H4R7M	ELECTRO	
C361,362		*	CE04KW1H4R7M	ELECTRO	
C363,364		*	CE04KW1H4R7M	ELECTRO	
C365,366		*	CE04KW1H4R7M	ELECTRO	
C367,368		*	CE04KW1H4R7M	ELECTRO	J
C369,370		*	CE04KW1H4R7M	ELECTRO	
C373,374		*	CE04KW1H4R7M	ELECTRO	
C375,376		*	CE04KW1H4R7M	ELECTRO	
C387,388		*	CE04KW1H4R7M	ELECTRO	J
C389,390		*	CE04KW1H4R7M	ELECTRO	
C391,392		*	CE04KW1H4R7M	ELECTRO	
C393,394		*	CE04KW1H4R7M	ELECTRO	
C395		*	CE04KW1H4R7M	ELECTRO	J

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
R369-372			RD14NB2E271J	270	1/4W	
R373-374			RD14NB2E181J	180	J	1/4W
R410-411			RD14NB2E271J	270	J	1/4W
R412			RD14NB2E181J	180	J	1/4W
R465-466			RD14NB2E471J	470	J	1/4W
R478			RD14NB2E392J	3.3K	J	1/4W
R479			RD14NB2E472J	4.7K	J	1/4W
R480			RD14NB2E391J	390	J	1/4W
VR1-2			R31-0063-05	VARIABLE RESISTOR		
K301-302			S76-0028-05	MAGNETIC RELAY		
S1-10			S70-0031-05	TACT SWITCH	KPYTEQ	
S11			S70-0031-05	TACT SWITCH	KPYTEQ	
S12-19			S70-0031-05	TACT SWITCH	KPYTEQ	
S20			S70-0031-05	TACT SWITCH		
S21-28			S70-0031-05	TACT SWITCH		
S29			S70-0031-05	TACT SWITCH		
S30-33			S70-0031-05	TACT SWITCH		
S201			S62-0034-05	SLIDE SWITCH		
S34			T99-0559-05	ROTARY ENCODER		
S35			T99-0571-05	ROTARY ENCODER		
D1-4			HSS104	DIODE		
D1-4			1SS133	DIODE		
D101			HSS104A	DIODE		
D101			1SS131	DIODE		
D102			HSS104	DIODE		
D102			1SS133	DIODE		
D103			HSS104A	DIODE		
D103			1SS131	DIODE		
D107-108			HSS104	DIODE		
D107-108			1SS133	DIODE		
D109			HSS104	DIODE		
D110-115			1SS133	DIODE		
D110-115			1SS133	DIODE		
D151-152			HZS3.3N(B2)	ZENER DIODE		
D151-152			RD3.3ES(B2)	ZENER DIODE		
D153			HZS11N(B2)	ZENER DIODE		
D153			RD11ES(B2)	ZENER DIODE		
D201-202			HSS104	DIODE		
D201-202			1SS133	DIODE		
D205-206			HSS104	DIODE		
D205-206			1SS133	DIODE		
D301-304			HSS104	DIODE		
D301-304			1SS133	DIODE		
D351-354			HSS104	DIODE		
D351-354			1SS133	DIODE		
D401-402			HSS104	DIODE		
D401-402			1SS133	DIODE		
D451-452			HZS24N(B)	ZENER DIODE		
D451-452			RD24ES(B)	ZENER DIODE		
D453-457			HSS104	DIODE		
D453-457			1SS133	DIODE		
D458			HZS5.1S(B2)	ZENER DIODE		
D458			RD5.1US(B2)	ZENER DIODE		
D458						

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D471-472			HSS104A	DIODE		
D471-472			1SS131	DIODE		
D473			HZS18N(B2)	ZENER DIODE	KPYCM	
D473			RD18ES(B2)	ZENER DIODE	TEQ	
D474			HZS16N(B2)	ZENER DIODE	TEQ	
D474			HZS8.2N(B2)	ZENER DIODE		
D474			RD16ES(B2)	ZENER DIODE		
D474			RD8.2ES(B2)	ZENER DIODE		
D475			HSS104	DIODE		
D475			1SS133	DIODE		
D476			HSS104A	DIODE	KPYCM	
D476			1SS131	DIODE	KPYCM	
D477-478			HSS104A	DIODE		
D477-478			1SS131	DIODE		
D479			HZS11N(B2)	ZENER DIODE		
D479			RD11ES(B2)	ZENER DIODE		
ED1			11-MT-110GK	INDICATOR TUBE		
IC1			NJM4565L-D	ANALOGUE IC		
IC2			NJM4565D-D	(IC(OP AMP X2)		
IC101			UPD16311	MOS-IC		
IC102			SAA6579	ANALOGUE IC	KPYTEQ	
IC201-202			SN761200N	ANALOGUE IC		
IC203-204			TC74HC4053AP	(IC(ANALOG MULTIPLEXER)		
IC205-206			MC14577CP	ANALOGUE IC		
IC301			NJM4565D-D	(IC(OP AMP X2)		
Q1-2			2SC2458(V,GR)	TRANSISTOR		
Q1-2			2SC3311A(Q,R)	TRANSISTOR		
Q101-102			2SC2458(V,GR)	TRANSISTOR		
Q101-102			2SC3311A(Q,R)	TRANSISTOR		
Q151			2SA1534A(R,S)	TRANSISTOR		
Q152			2SA1048(V,GR)	TRANSISTOR		
Q152			2SA1309A(Q,R)	TRANSISTOR		
Q204			2SC2878(B)	TRANSISTOR		
Q204			DTA113ZSA	DIGITAL TRANSISTOR		
Q204			UN4119	DIGITAL TRANSISTOR		
Q205			DTC113ZSA	DIGITAL TRANSISTOR		
Q205			UN4219	DIGITAL TRANSISTOR		
Q206			DTA113ZSA	DIGITAL TRANSISTOR		
Q206			UN4119	DIGITAL TRANSISTOR		
Q207-210			2SC2003(L,K)	TRANSISTOR		
Q301-304			2SA992(F,E)	TRANSISTOR		
Q305-308			2SC2631(R,S)	TRANSISTOR		
Q309-310			2SA1123(R,S)	TRANSISTOR		
Q311-312			2SA1048(V,GR)	TRANSISTOR		
Q311-312			2SA1309A(Q,R)	TRANSISTOR		
Q351-354			2SA992(F,E)	TRANSISTOR		
Q355-358			2SC2631(R,S)	TRANSISTOR		
Q359-360			2SA1123(R,S)	TRANSISTOR		
Q361-362			2SA1048(V,GR)	TRANSISTOR		
Q361-362			2SA1309A(Q,R)	TRANSISTOR		
Q401-402			2SA992(F,E)	TRANSISTOR		
Q403-404			2SC2631(R,S)	TRANSISTOR		
Q405			2SA1123(R,S)	TRANSISTOR		
Q406			2SA1048(V,GR)	TRANSISTOR		
Q406			2SA1309A(Q,R)	TRANSISTOR		

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Q451-452			DTC113ZSA	DIGITAL TRANSISTOR		
Q451-452			UN4219	DIGITAL TRANSISTOR		
Q471			2SA1048(V,GR)	TRANSISTOR		
Q471			2SA1309A(Q,R)	TRANSISTOR		
Q472			DTC124ESA	DIGITAL TRANSISTOR		
Q472			UN4212	DIGITAL TRANSISTOR		
Q475			2SC1845(F,E)	TRANSISTOR		
Q476			2SA1535(R,S)	TRANSISTOR		
A1			W02-2561-05	ELECTRIC CIRCUIT MODULE		
SWITCH UNIT (X25-588X-XX)						
C1-2			CC45FSL1H151JN	CERAMIC		
C3-4			CE04KW1H100M	ELECTRO		
C5-6			CO93FMG1H393J	MYLAR		
C7-8			CO93FMG1H113J	MYLAR		
C9-10			CE04EW0J102M	ELECTRO		
C11-12			CO93FMG1H182J	MYLAR		
C13-16			CO93FMG1H102J	MYLAR		
C17-18			CE04KW1E470M	ELECTRO		
C19-20			CK45FB1H471KMM	CERAMIC		
C21			CF92FV1H104J	MF-C		
C22-40			CO93FMG1H102J	MYLAR		
C51-52			CC45FSL1H151JN	CERAMIC		
C53-54			CE04KW1H100M	ELECTRO		
C55-56			CC45FSL1H470JN	CERAMIC		
C57			CO93FMG1H103J	MYLAR		
C58			CO93FMG1H102J	MYLAR		
C71-72			CE04KW1H2R2M	ELECTRO		
C75-76			CC45FSL1H470JN	CERAMIC		
C77			CO93FMG1H103J	MYLAR		
C78			CO93FMG1H102J	MYLAR		
C101-102			CE04KW1H2R2M	ELECTRO		
C103-104			CC45FSL1H470JN	CERAMIC		
C105-106			CE04KW1H2R2M	ELECTRO		
C107-108			CC45FSL1H470JN	CERAMIC		
C109-110			CE04KW1H2R2M	ELECTRO		
C111-112			CC45FSL1H470JN	CERAMIC		
C113-118			CE04KW1H4R7M	ELECTRO		
C119			CO93FMG1H103J	MYLAR		
C120			CO93FMG1H102J	MYLAR		
C122			CO93FMG1H102J	MYLAR		
C124			CO93FMG1H103J	MYLAR		
C125-130			CC45FSL1H101JN	CERAMIC		
C141			CO93FMG1H103J	MYLAR		
C142			CO93FMG1H151K	MYLAR		
C143			CO93FMG1H103J	MYLAR		
C144			CO93FMG1H151K	MYLAR		
C145			CO93FMG1H103J	MYLAR		
C146			CO93FMG1H151K	MYLAR		
C147-149			CK45FB1H471KMM	CERAMIC		
C150			CE04HW1H100M	NP-ELEC		
C171-176			CE04KW1H4R7M	ELECTRO		
C177-182			CC45FSL1H151JN	CERAMIC		

L : Scandinavia
Y : PX(Far East, Hawaii)
Y : AAFES(Europe)

K : USA
P : Canada
T : Europe
X : Australia

R : Mexico
G : Germany
M : Other Areas
Q : Russia

Δ indicates safety critical components.

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C202-208			CC45FSL1H101JN	CERAMIC		
C209			CE04KW1V4R7M	ELECTRO		
C210			CE04KW1C331M	ELECTRO		
C211			CE04KW1V4R7M	ELECTRO		
C212			CE04KW1C331M	ELECTRO		
C213-215			CE04KW1V4R7M	ELECTRO		
C216			CE04KW1H100M	ELECTRO		
C217			CC45FSL1H100DN	CERAMIC		
C218			CO93FMG1H222J	MYLAR		
C219			CE04KW1H100M	ELECTRO		
C220			CC45FSL1H100DN	CERAMIC		
C221			CC45FSL1H221JN	CERAMIC		
C222			CE04KW1H010M	ELECTRO		
C223			CK45FB1H471KMM	CERAMIC		
C224			CE04KW1H4R7M	ELECTRO		
C225			CO93FMG1H223J	MYLAR		
C226			CE04KW1H2R2M	ELECTRO		
C227			CK45FB1H32KMM	CERAMIC		
C228			CC45FSL1H221JN	CERAMIC		
C229			CC45FCH1H050CN	CERAMIC		
C230			CC45FCH1H220JN	CERAMIC		
C231			CC45FSL1H220JN	CERAMIC		
C232			CC45FSL1H220JN	CERAMIC		
C234			CE04KW1H010M	ELECTRO		
C235			CK45FB1H471KMM	CERAMIC		
C236			CE04KW1H4R7M	ELECTRO		
C237			CO93FMG1H473J	MYLAR		
C238			CE04KW1H010M	ELECTRO		
C239			CK45FF1H4722MM	CERAMIC		
C240			CC45FSL1H221JN	CERAMIC		
C241			CC45FCH1H050CN	CERAMIC		
C242			CC45FCH1H220JN	CERAMIC		
C243			CC45FSL1H220JN	CERAMIC		
C244			CC45FSL1H220JN	CERAMIC		
C245			CK45FB1H152KMM	CERAMIC		
C246			CE04KW1V4R7M	ELECTRO		
C247			CE04KW1H100M	ELECTRO		
C248			CO93FMG1H153J	MYLAR		
C249			CO93FMG1H683J	MYLAR		
C250-252			CC45FSL1H100DN	CERAMIC		
C253			CE04HW1E100M	NP-ELEC		
C254-256			CC45FSL1H220JN	CERAMIC		
C257-258			CC45FSL1H220JN	CERAMIC		
C301-302			CE04KW1H100M	ELECTRO		
C303			CE04KW1H100M	ELECTRO		
C304			CK45FF1H1032MM	CERAMIC		
C305			CE04KW1H100M	ELECTRO		
C306			CK45FF1H1032MM	CERAMIC		
C307-309			CC45FSL1H101JN	CERAMIC		
C310			CE04KW1H100M	ELECTRO		
C311			CK45FF1H1032MM	CERAMIC		
C312			CE04KW1H100M	ELECTRO		
C313			CK45FF1H1032MM	CERAMIC		
C314			CE04KW1H100M	ELECTRO		
C315-316			CK45FF1H1032MM	CERAMIC		

GENERAL

RF Demodulator (DEM-999D) (only KR-V999D C,M,T type)



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KR-V999D/1090VR

CIRCUIT DESCRIPTION

3. TUNER PRESET MEMORY FREQUENCY(INITIALIZE)

Channel	BAND	K1 TYPE	BAND	K2 TYPE	BAND	E1/E3 TYPE	BAND	Q TYPE
01ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz
02ch	FM	98.00MHz	FM	98.00MHz	FM	98.00MHz	FM	98.00MHz
03ch	FM	108.00MHz	FM	108.00MHz	FM	108.00MHz	FM	108.00MHz
04ch	AM	630kHz	AM	630kHz	AM	630kHz	AM	630kHz
05ch	AM	1000kHz	AM	1000kHz	AM	999kHz	AM	999kHz
06ch	AM	1440kHz	AM	1440kHz	AM	1440kHz	AM	1440kHz
07ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz	FML	74.00MHz
08ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz	FML	65.00MHz
09ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz	FML	69.00MHz
10ch	FM	89.10MHz	FM	89.10MHz	FM	89.10MHz	FM	89.10MHz
11ch	FM	90.00MHz	FM	90.00MHz	FM	90.00MHz	FM	90.00MHz
12ch	FM	97.50MHz	FM	97.50MHz	FM	97.50MHz	FM	97.50MHz
13ch	FM	98.50MHz	FM	98.50MHz	FM	98.50MHz	FM	98.50MHz
14ch	FM	106.00MHz	FM	106.00MHz	FM	106.00MHz	FM	106.00MHz
15ch	AM	530kHz	AM	530kHz	AM	531kHz	AM	531kHz
16ch	AM	990kHz	AM	990kHz	AM	990kHz	AM	990kHz
17ch	AM	1700kHz	AM	1610kHz	AM	1602kHz	AM	1602kHz
18ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz
19ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz
20ch	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz
21~40ch	FM	76.00MHz	FM	87.50MHz	FM	87.50MHz	FM	87.50MHz

The initial setting is performed in a following event :

1. When backup memory data is destroyed when reset is applied to the microprocessor.
2. When the power cord is plugged in to the AC wall outlet while pressing the POWER key.

4. Condition by the destination or model

Type	BAND	Reception frequency	Channel space	IF	PLL standard frequency	Destination switch				
						4 65	3 62	26	25	24
K1(1700) (RBDS)	FM	87.5MHz - 108.0MHz	100kHz	+10.7MHz	50kHz	0	0	1	0	0
	AM	530kHz - 1700kHz	10kHz	+450kHz	10kHz					
K2 (1610)	FM	87.5MHz - 108.0MHz	100kHz	+10.7MHz	50kHz	0	1	0	1	0
	AM	530kHz - 1610kHz	10kHz	+450kHz	10kHz					
K3(1610) (RBDS)	FM	87.5MHz - 108.0MHz	100kHz	+10.7MHz	50kHz	1	0	0	1	0
	AM	530kHz - 1610kHz	10kHz	+450kHz	10kHz					
E1	FM	87.5MHz - 108.0MHz	50kHz	+10.7MHz	50kHz	0 or 1	0 or 1	0	1	0
	AM	531kHz - 1602kHz	9kHz	+450kHz	9kHz					
E2 (RDS)	FM	87.5MHz - 108.0MHz	50kHz	+10.7MHz	50kHz	0	0	1	1	0
	AM	531kHz - 1602kHz	9kHz	+450kHz	9kHz					
M	K2/E1 is switched with only the setting of TSW3.					0	X	0	1	0
	(TSW3=1: K2 type, 0: E1 type)									
Y	K3/E1 is switched with only the setting of TSW3.					1	X	0	1	0
	(TSW3=1: E1 type, 0: K3 type)									
Q (RDS)	FM L	65.0MHz - 74.0MHz	10kHz	+10.7MHz	5kHz	*	*	*	*	*
	FM H	87.5MHz - 108.0MHz	50kHz	+10.7MHz	5kHz					
	AM	531kHz - 1602kHz	9kHz	+450kHz	9kHz					

※ The number inside ○ is a terminal number of a main microprocessor.

KR-V999D/1090VR

CIRCUIT DESCRIPTION

5. Test mode

(1) Test mode setting method

Turn on the power supply while pressing TUNING-DOWN key, to make a set in test mode condition. When a set is set up in test mode condition a set becomes the following condition.

Automatic POWER ON

All indicator tubes and also LED are lighted. (This condition can be canceled by pressing the key of the set.)

A backup at the thing except ON/OFF of POWER is initialized.

(2) Test mode cancellation method

The power supply is turned off.

(3) A tuner function.

When a selector is set to the tuner, the following key is not usual function and operates by the special function. The function to summon the channel of the presetting

① The following channel is summoned when not operating +10 keys.

1ch ~ 9ch (1 ~ 9key)

10ch (0key)

② When +10 keys are pressed once, the following channel is summoned.

11ch ~ 19ch (1 ~ 9key)

20ch (0key)

③ When +10 keys are pressed twice, the following channel is summoned.

21ch ~ 29ch (1 ~ 9key)

30ch (0key)

④ When +10 keys are pressed three times, the following channel is summoned.

31ch ~ 39ch (1 ~ 9key)

40ch (0key)

⑤ When +10 keys are pressed four times, it gets to do the function which is the same as the condition which doesn't press +10 keys.

- The S level hexadecimal DATA display and the ATT ON/OFF function

When a selector is set to the tuner, it repeats the following operation cyclically when operating the PTY key of the set.

a) When ATT is in the OFF condition, it displays as follows.

"ATT OFF display" + "Signal level display by the tuner (HEX DATA)"

b) When ATT is in the ON condition, it displays as follows.

"ATT ON display" + "Signal level display by the tuner (HEX DATA)"

c) At the time of the ATT OFF condition, the set becomes usual display.

- ☆ When the key of a set is pressed a signal level display of a tuner continues to display the value of when that ATT works.

- The display changes by pressing TA•INFO•NEWS key, RDS DISPLAY key and TP key irrespective of the condition of AUTO-MEMORY.

- ☆ When it is inputting RDS signal the work of TP key is not able to be confirmed.

(TP display has changed by RDS signal.)

- MUTE signal output

Because TUNER-MUTE always becomes OFF condition, it isn't possible to do control.

- RDS display mode.

RDS-PS display works by pressing PRO-LOGIC key irrespective of TUNED. Then, "SURROUND" of an indicator tube is lighted. (It is able to cancel it by pressing PRO-LOGIC key.)

- By pressing MEMORY key, it is possible to do the work of all the lighting-up / usual lighting-up cyclically.

(4) An amplifier function.

- The value in the first of the speaker setting by the test mode is full equipment.

- When a selector is set to the thing except TUNER, the following key works by the special function. When a selector is set to TUNER, the following key does usual work.

- ① It is possible to set as follows by operating with the rotary encoder and the stoat key when a selector is set to the thing except TUNER.

Setting item	Ten-key that operates	Master volume
Maximum	2	0dB
Middle	3	-30dB
Minimum	1	-98dB

- ② The following work is done by operating a ten-key, when a selector is set up other than TUNER.

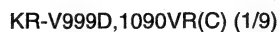
Condition which displayed	Ten-key that operates	
The setting initial state is a master volume.		
INPUT LEVEL (IL)	4	After pressing the ten-key which was written on the left, press "1" "2" or "3" of the ten-key.
SPEAKER DELAY TIME (DL)	5	
SPEAKER LEVEL FRONT L (L)	6	
SPEAKER LEVEL FRONT R (R)	7	
SPEAKER LEVEL CENTER (C)	8	
SPEAKER LEVEL REAR L (SL)	9	
SPEAKER LEVEL FRONT R (SR)	0	
SPEAKER LEVEL WOOFER (SW)	+10	

③ Test tone operation

While displaying as follows every time it presses DIRECT key when dolby surround is working, it switches a speaker and TEST-TONE is output.

By pressing STEREO key, this work and dolby surround can be canceled.

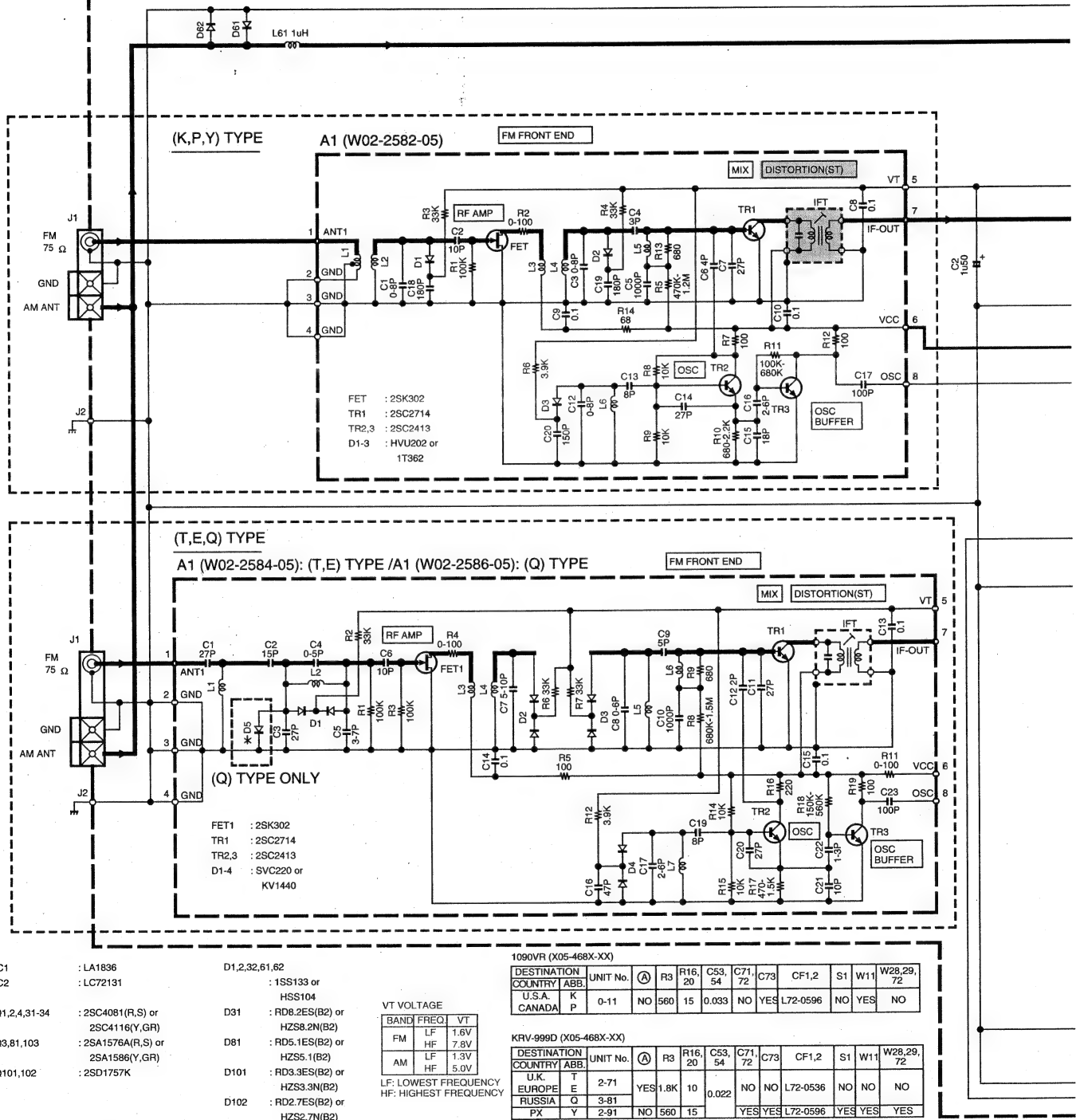
Lch → Cch → Rch → RSch → LSch → SWch



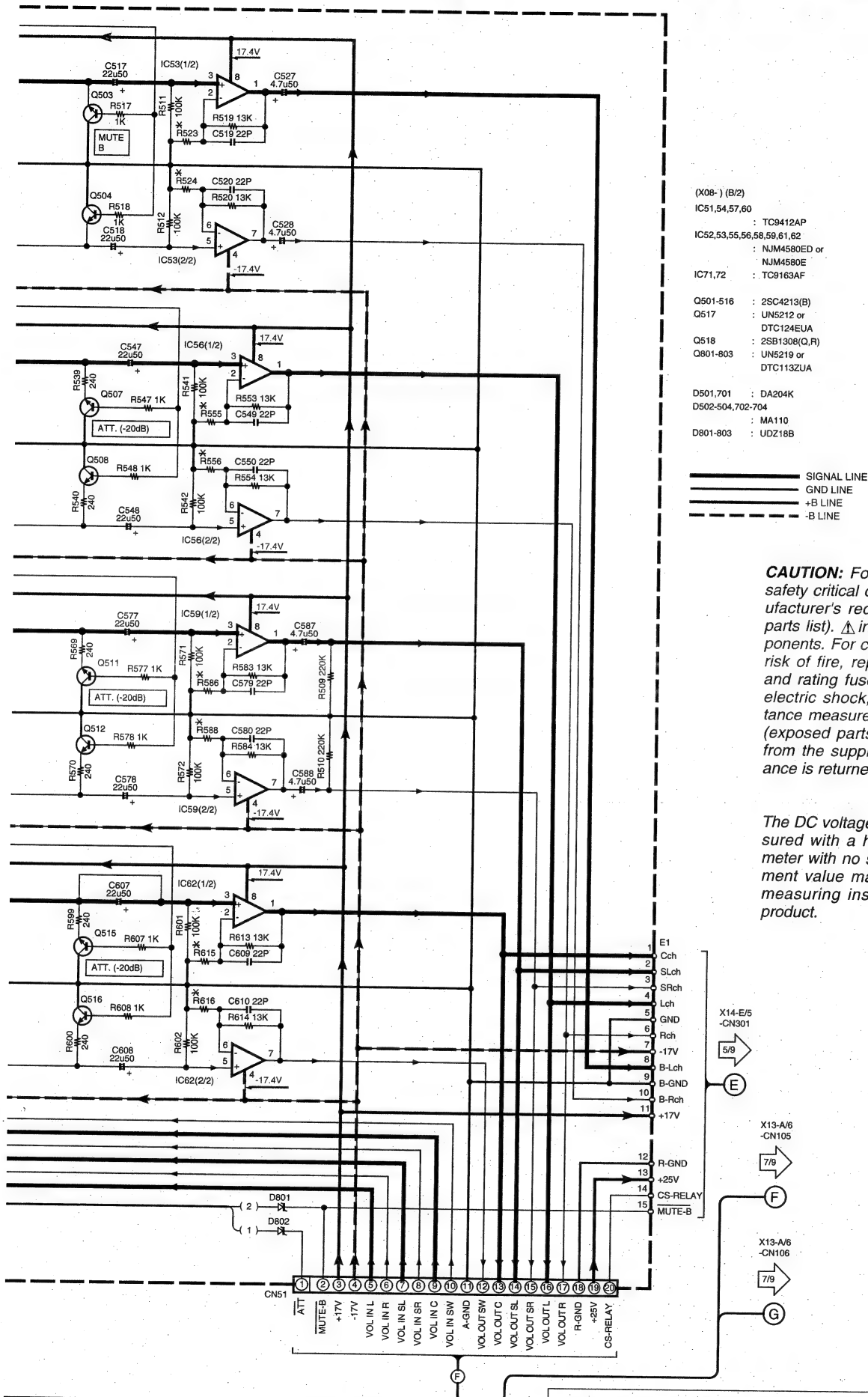
(X05-468X-XX) (K,P,T,E,Q,Y) TYPE

The DC voltage is an actual reading measured with a high impedance type voltmeter as the AM/FM signal generator is specified to the conditions as shown in the list below. The measurement value may vary depending on the measuring instruments used or on the product. The value shown in () is actual reading measured in the AM mode.

MODE	CARRIER	MODULATION		ANT INPUT
		FREQUENCY	DEVIATION	
FM	98MHz	1kHz	STEREO 67.5kHz 7.5kHz(Pilot)	60dB
AM	1000(999)kHz	400Hz	MONO 30% MOD	60dB



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

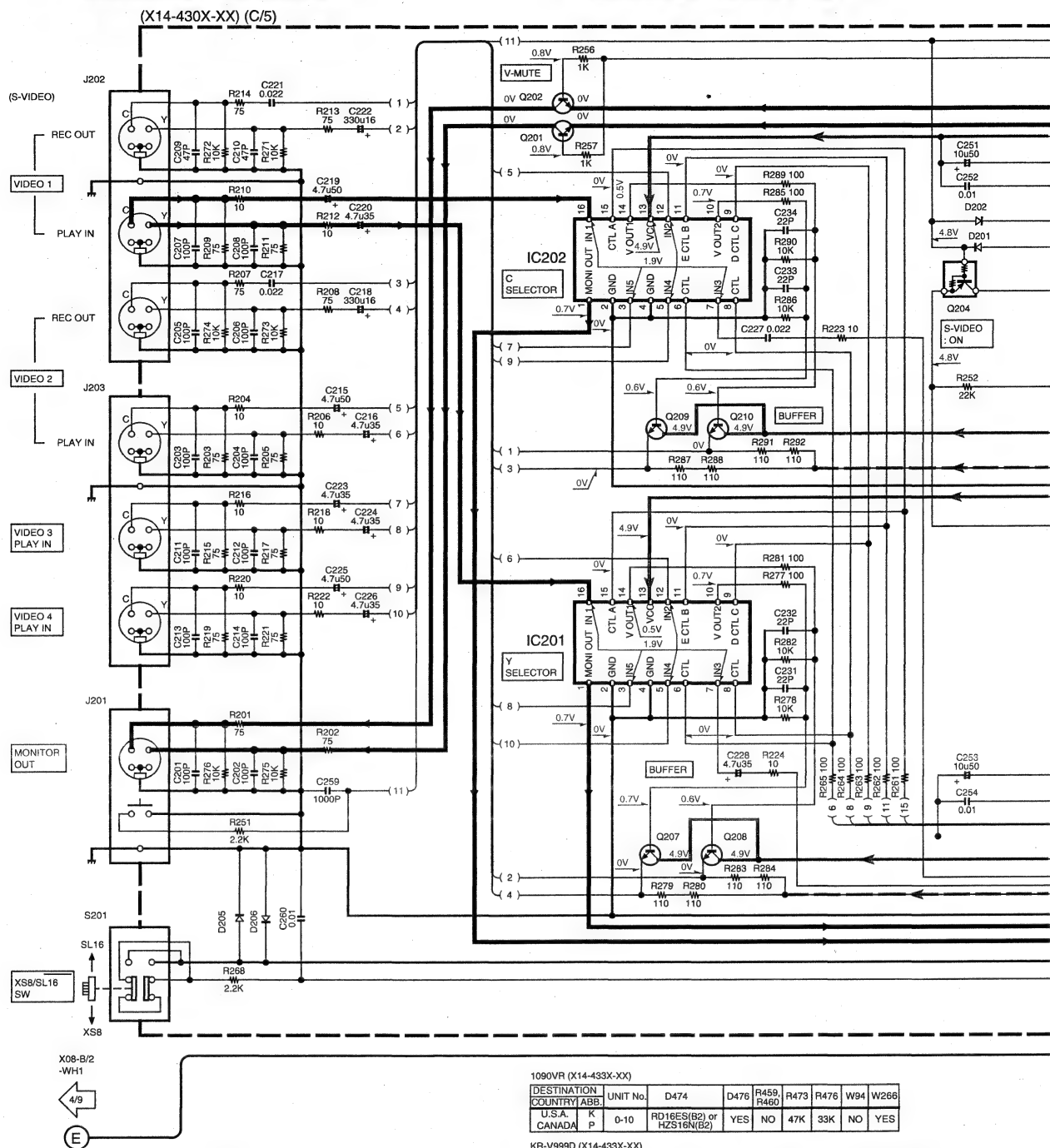


KR-V999D,1090VR(K) (4/9)

Y05-3300-10

KR-V999D/1090VR

KENWOOD



IC201,202 : SN761200N
 IC203,204 : TC74HC4053AP
 IC205,206 : MC14577CP
 IC301 : NJM4558D-D

Q201,202 : 2SC2678(B)
 Q204,206 : UN4119 or DTA113ZSA
 Q205,451,452 : UN4219 or DTC113ZSA
 Q207-210 : 2SC2003(L,K)
 Q301-304,351-354,401,402 : 2SA992(F,E)
 Q305-308,355-358,403,404 : 2SC2631(R,S)
 Q309,310,359,360,405 : 2SA1123(R,S)
 Q311,312,361,362,406,471 : 2SA1048(Y,GR) or 2SA1309A(Q,R)
 Q472 : UN4212 or DTC124ESA
 Q475 : 2SC1845(F,E)
 Q476 : 2SA1535(R,S)

1090VR (X14-433X-XX)

DESTINATION	UNIT No.	D474	D476	R459, R460	R473	R476	W94	W266
COUNTRY	ABB							
U.S.A.	K	0-10	RD16ES(B2) or HZS16N(B2)	YES	NO	47K	33K	NO
CANADA	P							

KR-V999D (X14-433X-XX)

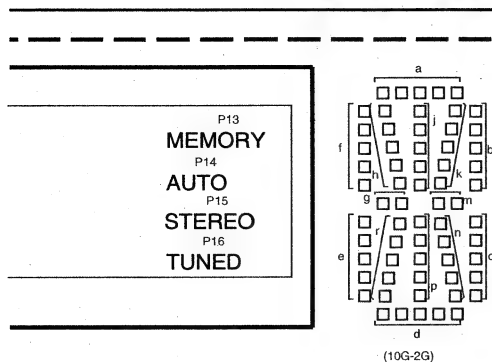
DESTINATION	UNIT No.	D474	D476	R459, R460	R473	R476	W94	W266
COUNTRY	ABB							
GENERAL MARKET	M	0-21	RD16ES(B2) or HZS16N(B2)	YES	NO	YES	33K	NO
CHINA	C							
FX	Y							
U.K.	T							
EUROPE	E	2-71	RD8.2ES(B2) or HZS8.2(B2)	NO	YES	NO	62K	YES
RUSSIA	Q							

D201,202,205,206,
 301-304,351-354,401,402,453-457,475
 : 1SS133 or HSS104

D471,472,476-478

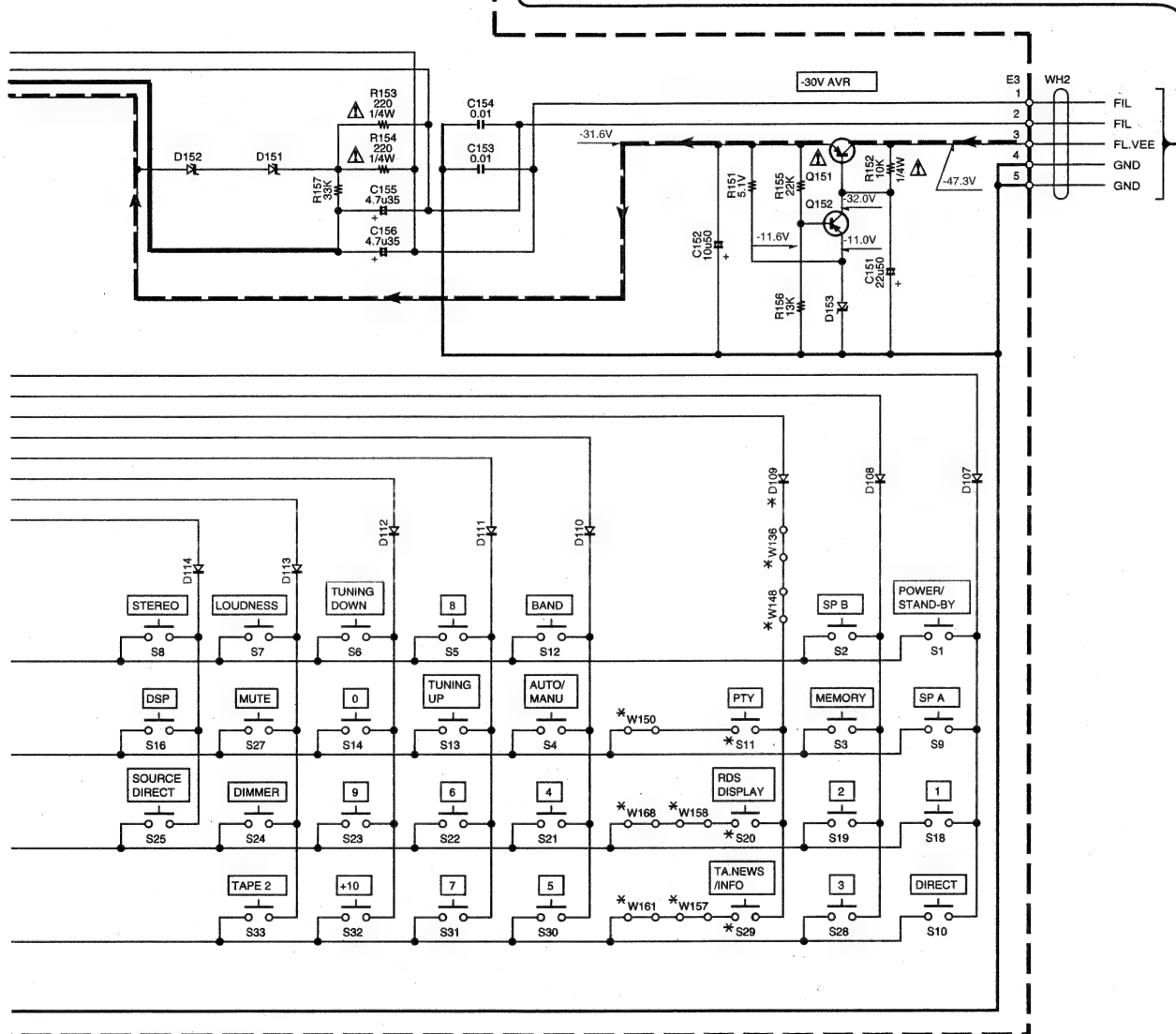
D479 : HSS104A or 1SS131
 D479 : RD11ES(B2) or HZS11N(B2)
 D451,452 : RD24ES(B) or HZS24N(B)
 D458 : RD5.1JS(B2) or HZS5.1S(B2)
 D473 : RD18ES(B2) or HZS18N(B2)
 D474 : *

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type volt-meter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.



1090VR (X14-433X-XX)

DESTINATION	UNIT No.	(A)	D109	S11,20,29	W136,148,150,157,158,161,168
COUNTRY	ABB.				
U.S.A.	K	0-10	YES	YES	YES
CANADA	P				

KR-V999D (X14-433X-XX)

DESTINATION	UNIT No.	(A)	D109	S11,20,29	W136,148,150,157,158,161,168
COUNTRY	ABB.				
GENERAL MARKET	M	0-21	NO	NO	NO
CHINA	C				
PX	Y				
U.K.	T	2-71	YES	YES	YES
EUROPE	E				
RUSSIA	Q				

— SIGNAL LINE
 — GND LINE
 — +B LINE
 — -B LINE

KR-V999D,1090VR(K) (9/9)

KR-V999D/1090VF

KENWOOD

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KR-V999D/1090VR

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
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Teile ohne **Parts No.** werden nicht geliefert.

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
621	1C		E30-2825-05	AC POWER CORD	C	
625	2A	*	F19-1076-03	BLIND PLATE	C	
626	2C	*	F20-3503-14	INSULATING BOARD		
627	2C	*	F20-3504-03	INSULATING BOARD		
630	2A		G11-0155-14	SOFT TAPE (40X9X2)		
631	1A		G11-1167-04	SOFT TAPE		
-	-	*	H10-7312-02	POLYSTYRENE FOAMED FIXTURE	CTM	
-	-	*	H10-7313-02	POLYSTYRENE FOAMED FIXTURE	KPYMCE	
-	-	*	H12-2328-04	PACKING FIXTURE	Q	
-	-	*	H25-0232-04	PROTECTION BAG (235X350X0.03)	T	
-	-	*	H25-0232-04	PROTECTION BAG (235X350X0.03)	KPY	
-	-	*	H25-0651-04	PROTECTION BAG	E	
-	-	*	H25-0661-04	PROTECTION BAG	T	
-	-	*	H50-2196-04	ITEM CARTON CASE	KPY	
-	-	*	H50-2197-04	ITEM CARTON CASE	E	
-	-	*	H50-2260-04	ITEM CARTON CASE	T	
-	-	*	H50-2402-04	ITEM CARTON CASE	M	
-	-	*	H50-2403-04	ITEM CARTON CASE	Q	
-	-	*	H50-2480-04	ITEM CARTON CASE	C	
640	2B/2C		J02-1147-13	FOOT (D=46,H=18.5)	KPYMTE	
640	2B/2C	*	J02-1147-13	FOOT (D=46,H=18.5)	Q	
640	2B/2C	*	J02-1170-03	FOOT	C	
641	2C	*	J19-3300-05	UNIT HOLDER		
642	2C	*	J19-3324-15	UNIT HOLDER		
643	1A	*	J19-3645-05	ANT HOLDER	M	
644	2C	*	J19-3732-04	UNIT HOLDER	KPYMTE	
645	1B	*	J19-5778-03	HOLDER	Q	
648	1C	*	J42-0083-05	POWER CORD BUSHING	KPYMTE	
-	-	*	J61-0098-05	WIRE BAND	Q	
-	-	*	J61-0307-05	WIRE BAND	M	
651	2A		K29-6249-04	KNOB	KPYMTE	
651	2A	*	K29-6249-04	KNOB	Q	
651	2A	*	K29-6556-04	KNOB (GOLD)	KPYMTE	
652	2A	*	K29-6251-04	KNOB	Q	
652	2A	*	K29-6251-04	KNOB	KPYMTE	
652	2A	*	K29-6557-04	KNOB (GOLD)	C	
652	2A	*	K27-2176-04	KNOB (BUTTON)	MTEQ	
-	-	*	K27-2177-04	KNOB (BUTTON : GOLD)	C	
660	1A	*	L07-2272-05	POWER TRANSFORMER	KP	
660	1A	*	L07-2273-05	POWER TRANSFORMER	YM	
660	1A	*	L07-2274-05	POWER TRANSFORMER	TEQ	
660	1A	*	L07-2355-05	POWER TRANSFORMER	C	
665	1A		T90-0176-05	T TYPE ANTENNA		
666	1A		T90-0185-05	ANTENNA ADAPTOR		
667	1A		T90-0820-05	LOOP ANTENNA		
TUNER UNIT (X05-467X-XX)						
C1 2			CK73FB1H103K	CHIP C	K	
C5			CK73FB1H102K	CHIP C	K	
C8			CK73FB1H103K	CHIP C	K	
C9			CE04LW1C100M	ELECTRO	16WV	
C10			CK73FB1H473K	CHIP C	K	

L : Scandinavia
Y : PX(Far East, Hawaii)
Y : AAFES(Europe)

K : USA
P : Canada
E : Europe
X : Australia
M : Other Areas

R : Mexico
G : Germany
Q : Russia

Δ indicates safety critical components.

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
KR-V999D/1090VR						
601	1A	*	A01-3394-11	METALLIC CABINET(GOLD)	C	
601	1A	*	A01-3396-01	METALLIC CABINET(BLACK)	KPYMTE	
601	1A	*	A01-3396-01	METALLIC CABINET(BLACK)	Q	
602	1A	*	A09-0366-08	BATTERY COVER (FOR RC-R0905)		
608	2A	*	A60-1046-12	PANEL	KPY	
608	2A	*	A60-1047-02	PANEL (BLACK)	TEQ	
608	2A	*	A60-1076-02	PANEL (BLACK)	M	
608	2A	*	A60-1077-02	PANEL (GOLD)	C	
609	2A	*	A70-1114-05	REMOTE CONTROLLER (RC-R0905)		
615	2A	*	B01-0525-11	PANEL ESCUTCHEON	M	
615	2A	*	B01-0527-11	PANEL ESCUTCHEON	KPYTEQ	
615	2A	*	B01-0532-11	PANEL ESCUTCHEON	C	
616	2A	*	B10-2297-02	FRONT GLASS	KPYTEQ	
616	2A	*	B10-2298-02	FRONT GLASS	M	
616	2A	*	B10-2332-02	FRONT GLASS	C	
617	1A	*	B11-0295-03	COLOR FILTER	KPYMTE	
617	1A	*	B11-0295-03	COLOR FILTER	Q	
617	1A	*	B11-0344-13	COLOR FILTER	C	
618	2A	*	B43-0302-04	KENWOOD BADGE	KPYMTE	
618	2A	*	B43-0302-04	KENWOOD BADGE	Q	
618	2A	*	B43-0305-04	KENWOOD BADGE	C	
-	-	*	B46-0197-00	QUESTIONNAIRE CARD	K	
-	-	*	B46-0310-03	WARRANTY CARD	TEQ	
-	-	*	B46-0326-03	WARRANTY CARD	C	
-	-	*	B46-0330-03	WARRANTY CARD	KY	
-	-	*	B46-0336-03	WARRANTY CARD	P	
-	-	*	B58-0513-04	CAUTION CARD (PRESET220-240)	Y	
-	-	*	B58-0984-13	CAUTION CARD (UL)	KY	
-	-	*	B58-0985-13	CAUTION CARD (T,X PL)	T	
-	-	*	B58-0986-13	CAUTION CARD (ELM PL)	CE	
-	-	*	B58-0987-03	CAUTION CARD (P PL)	P	
-	-	*	B58-1526-03	CAUTION CARD (P4,ORI,A4,1(Q)	Q	
-	-	*	B59-1104-00	SERVICE DIRECTORY	Y	
-	-	*	B60-3008-00	INSTRUCTION MANUAL(ENGLISH)	KPY	
-	-	*	B60-3009-00	INSTRUCTION MANUAL(ENGLISH)	T	
-	-	*	B60-3010-00	INSTRUCTION MANUAL(ENGLISH)	CM	
-	-	*	B60-3011-00	INSTRUCTION MANUAL(FRENCH)	P	
-	-	*	B60-3012-00	INSTRUCTION MANUAL(FRENCH)	E	
-	-	*	B60-3013-00	INSTRUCTION MANUAL(SPANISH)	M	
-	-	*	B60-3014-00	INSTRUCTION MANUAL(ITALIAN)	E	
-	-	*	B60-3124-00	INSTRUCTION MANUAL(GERMAN)	E	
-	-	*	B60-3126-00	INSTRUCTION MANUAL(CHINESE)	M	
-	-	*	B60-3127-00	INSTRUCTION MANUAL(CHINESE)	C	
-	-	*	B60-3251-00	INSTRUCTION MANUAL(DUTCH)	E	
-	-	*	B60-3252-00	INSTRUCTION MANUAL(SPANISH)	E	
-	-	*	B60-3298-00	INSTRUCTION MANUAL(RUSSIAN)	Q	
-	-	*	B60-3300-00	INSTRUCTION MANUAL(POLISH)	Q	
620	1A	*	E03-0343-05	AC PLUG ADAPTER	M	
621	1C	*	E30-2579-05	AC POWER CORD	EQM	
621	1C	*	E30-2739-05	AC POWER CORD	Y	
621	1C	*	E30-2787-05	AC POWER CORD	KP	
621	1C	*	E30-2791-05	AC POWER CORD	T	

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KR-V999D/1090VR

PARTS LIST

4

* New Parts
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Teile ohne **Parts No.** werden nicht geliefert.

Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks
R19			RK73FB2A822J	CHIP R	1/10W	
R20			RK73FB2A102J	CHIP R	1/10W	
R24			RK73FB2A562J	CHIP R	1/10W	
R25			RD14NB2E101J	RD	1/4W	
R26			RD14NB2E561J	RD	1/4W	
R27			RK73FB2A103J	CHIP R	1/10W	
R29			RK73FB2A102J	CHIP R	1/10W	
R31			RK73FB2A103J	CHIP R	1/10W	
R32			RK73FB2A122J	CHIP R	1/10W	
R33			RK73FB2A123J	CHIP R	1/10W	
R41			RS14KB3A271JFR	FL-PROOF RS	1W	
R42			RD14NB2E271J	RD	1/4W	
R44			RK73FB2A101J	CHIP R	1/10W	
R46			RK73FB2A104J	CHIP R	1/10W	
R47			RK73FB2A153J	CHIP R	1/10W	
R48			RK73FB2A473J	CHIP R	1/10W	
R50			RK73FB2A471J	CHIP R	1/10W	
R51			RK73FB2A473J	CHIP R	1/10W	
R55			RK73FB2A154J	CHIP R	1/10W	
R59			RK73FB2A332J	CHIP R	1/10W	
R61			RK73FB2A103J	CHIP R	1/10W	
R62			RK73FB2A563J	CHIP R	1/10W	
R63			RK73FB2A821J	CHIP R	1/10W	
R64			RK73FB2A102J	CHIP R	1/10W	
R65			RK73EB2B102J	CHIP R	1/8W	
R73			RK73FB2A681J	CHIP R	1/10W	
W101-106			R92-0670-05	CHIP R	0 OHM	
W108-113			R92-0670-05	CHIP R	0 OHM	
W115			R92-0670-05	CHIP R	0 OHM	
W201-212			R92-0679-05	CHIP R	0 OHM	
S1			S62-0034-05	SLIDE SWITCH		
D1			HSS104	DIODE		
D1			1SS133	DIODE		
D3			HZS5.1N(B2)	ZENER DIODE		
D3			RD5.1ES(B2)	ZENER DIODE		
D8			HSS104	DIODE		
D8			1SS133	DIODE		
D10			MA111	DIODE		
D12			HZS3.3N(B2)	ZENER DIODE		
D12			RD3.3ES(B2)	ZENER DIODE		
D13			HZS2.7N(B2)	ZENER DIODE		
D13			RD2.7ES(B2)	ZENER DIODE		
IC1			LA1832	ANALOGUE IC		
IC2			LC72131	MOS-IC		
IC4			NJM4565M	IC(OP AMP X2)		
Q1			2SC2714(R,O)	TRANSISTOR		
Q3			2SA1576A(R,S)	TRANSISTOR		
Q3			2SA1586(Y,GR)	TRANSISTOR		
Q5			2SC4081(R,S)	TRANSISTOR		
Q5			2SC4116(Y,GR)	TRANSISTOR		
Q6			2SA1576A(R,S)	TRANSISTOR		
Q6			2SA1586(Y,GR)	TRANSISTOR		
Q7			2SD1757K	TRANSISTOR		
Q9			2SC4081(R,S)	TRANSISTOR		

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3

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Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks
C11			CE04LW1H010M	ELECTRO	50WV	
C12			CE04LW1H2R2M	ELECTRO	50WV	
C13			CK73FB1H102K	CHIP C	1000PF	
C14			CE04LW1H010M	ELECTRO	50WV	
C15			CK73FCH1H220J	CHIP C	22PF	
C16			CE04LW1C100M	ELECTRO	10UF	
C17			CK73FB1H562K	CHIP C	5600PF	
C18			CK73FB1H102K	CHIP C	1000PF	
C19			CE04HW1E4R7M	NP-ELEC	47UF	
C20			CK73FB1E104K	CHIP C	0.10UF	
C21			CQ93FMG1H113J	MYLAR	0.011UF	
C23			CE04LW1H010M	ELECTRO	10UF	
C25			CE04LW1C100M	ELECTRO	10UF	
C26			CE04LW1C470M	ELECTRO	47UF	
C27			CE04LW1H010M	ELECTRO	10UF	
C28			CQ93FMG1H223J	MYLAR	0.022UF	
C29			CE04LW1H2R2M	ELECTRO	2.2UF	
C30			CE04LW1C101M	ELECTRO	100UF	
C31			CE04LW1A470M	ELECTRO	47UF	
C32			CK73FB1H103K	CHIP C	0.010UF	
C33			CK73FSL1H101J	CHIP C	100PF	
C34			CK73FB1H102J	CHIP C	1000PF	
C36			CK73FCH1H270J	CHIP C	27PF	
C37			CK73FCH1H220J	CHIP C	22PF	
C38			CK73FB1H471K	CHIP C	470PF	
C57			CE04LW1H010M	ELECTRO	10UF	
C59			CE04LW1C100M	ELECTRO	100UF	
C61			CQ93FMG1H472J	MYLAR	4700PF	
C63			CK73FCH1H220J	CHIP C	22PF	
C64			CK73FCH1H330J	CHIP C	33PF	
C65			CK73FCH1H040C	CHIP C	4.0PF	
C67			CK73FB1H102K	CHIP C	1000PF	
CN1			E40-4609-05	PIN ASSY		
J1			E70-0052-05	LOCK TERMINAL BOARD		
CF1			L72-0531-05	CERAMIC FILTER		
CF3			L72-0593-05	CERAMIC FILTER		
L1			L39-1348-05	COMBINATION COIL		
L2			L30-0911-05	AM IFT		
L3			L40-1091-17	SMALL FIXED INDUCTOR(1UH)		
X1			L77-2159-05	CRYSTAL RESONATOR(7.2MHZ)		
X2			L78-0637-05	RESONATOR (456KHZ)		
R1			RK73FB2A332J	CHIP R	3.3K	
R2			RK73FB2A681J	CHIP R	680	
R3			RK73FB2A100J	CHIP R	10	
R4			RK73FB2A331J	CHIP R	330	
R6			RK73FB2A101J	CHIP R	100	
R7			RK73FB2A473J	CHIP R	47K	
R8			RK73FB2A331J	CHIP R	330	
R12			RK73FB2A102J	CHIP R	10K	
R13			RK73FB2A473J	CHIP R	47K	
R15			RK73FB2A363J	CHIP R	39K	
R17			RK73FB2A271J	CHIP R	270	
R18			RK73FB2A302J	CHIP R	3.0K	

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PARTS LIST

*New Parts

Parts without I

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Ref. No	Add- ress	New Parts	Parts No.	Description	Depti- nation	Re- marks
C96			CK73FB1H102K	CHIP C		
CN1			E40-4609-05	PIN ASSY		
CN2			E40-4871-05	PIN ASSY		
J1			E70-0052-05	LOCK TERMINAL BOARD		
CF1 ,2			L72-0536-05	CERAMIC FILTER		TEQ
CF1 ,2			L72-0596-05	CERAMIC FILTER		KPY
L31		*	L30-0943-05	FM IFT		
L32		*	L30-0944-05	FM IFT		
L33			L30-0911-05	AM IFT		
L34			L79-1240-05	LC FILTER		TEQ
L35 ,36			L79-1239-05	LC FILTER		
L61			L40-1091-17	SMALL FIXED INDUCTOR(1UH)		
L62			L39-1351-05	COMBINATION COIL		
L63			L40-1001-17	SMALL FIXED INDUCTOR(10UH,K)		
L81			L40-1091-17	SMALL FIXED INDUCTOR(1UH)		
X31			L78-0637-05	RESONATOR (456KHZ)		
X81			L77-2159-05	CRYSTAL RESONATOR(7.2MHZ)		
R1			RD14NB2E221J	RD	220	1/4W
R2			RK73FB2A221J	CHIP R	220	1/10W
R3			RK73FB2A182J	CHIP R	1.8K	1/10W
R3			RK73FB2A561J	CHIP R	560	1/10W
R4			RK73FB2A222J	CHIP R	2.2K	1/10W
R5			RK73FB2A103J	CHIP R	10K	1/10W
R7			RK73FB2A221J	CHIP R	220	1/10W
R8			RK73FB2A681J	CHIP R	680	1/10W
R9			RK73FB2A470J	CHIP R	47	1/10W
R10			RK73FB2A101J	CHIP R	100	1/10W
R11			RK73FB2A331J	CHIP R	330	1/10W
R12			RK73FB2A101J	CHIP R	100	1/10W
R13			RK73FB2A681J	CHIP R	680	1/10W
R14			RK73FB2A332J	CHIP R	33K	1/10W
R15			RK73FB2A331J	CHIP R	330	1/10W
R16			RK73FB2A100J	CHIP R	10	1/10W
R17			RK73FB2A150J	CHIP R	15	1/10W
R16			RK73FB2A331J	CHIP R	330	1/10W
R18			RK73FB2A391J	CHIP R	390	1/10W
R19			RK73FB2A681J	CHIP R	680	1/10W
R20			RK73FB2A100J	CHIP R	10	1/10W
R20			RK73FB2A150J	CHIP R	15	1/10W
R21			RK73FB2A101J	CHIP R	100	1/10W
R22			RK73FB2A100J	CHIP R	10	1/10W
R31		*	RS14KB3A151JFR	FL-PROOF RS	150	1W
R32			RK73EB2B432J	CHIP R	4.3K	1/8W
R33			RK73FB2A302J	CHIP R	3.0K	1/10W
R34			RK73FB2A822J	CHIP R	8.2K	1/10W
R35			RK73FB2A333J	CHIP R	33K	1/10W
R36			RK73FB2A393J	CHIP R	39K	1/10W
R37			RK73FB2A332J	CHIP R	3.3K	1/10W
R38			RK73FB2A333J	CHIP R	33K	1/10W
R39			RK73FB2A823J	CHIP R	82K	1/10W
R40			RK73FB2A202J	CHIP R	2.0K	1/10W
R41			RK73FB2A222J	CHIP R	2.2K	1/10W
R42			RK73FB2A202J	CHIP R	2.0K	1/10W

Coordinating Editor: **V. ICA** **P. Canada** **P. Mexico**

[illegible]

J. F. All at Last, Hawaii) **I.** Europe **G.** Germany **C.** Russia

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V : Australia
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VII : Russia

***New Parts**

parts without

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Ref. No	Add. res	New Parts	Parts No.	Description	Desti- nation	Re- marks
Q9 ,10			2SC4116(Y,GR)	TRANSISTOR		
A1			W02-2582-05	FM FRONT-END ASSY		
TUNER UNIT (X05-468X-XX)						
G1			CE04LW1C470M	ELECTRO	47UF	16WV
C2			CE04LW1H010M	ELECTRO	1.0UF	50WV
C3			CK73FB1H103K	CHIP C	0.010UF	K
C5 -10			CK73FB1H103K	CHIP C	0.010UF	K
C30			CK73EB1E473K	CHIP C	0.047UF	K
C31			CE04LW1C470M	ELECTRO	47UF	16WV
C32			CK73FB1H103K	CHIP C	0.010UF	K
C33			CE04LW1C100M	ELECTRO	10UF	16WV
C34			CK73FB1H103K	CHIP C	0.010UF	K
C35			CE04LW1C100M	ELECTRO	10UF	16WV
C36			CK73FB1E473K	CHIP C	0.047UF	K
C37			CK73FB1H103K	CHIP C	0.010UF	K
C38			C90-3217-05	ELECTRO	10UF	10WV
C40			C90-3253-05	ELECTRO	1.0UF	50WV
C41			C90-3251-05	ELECTRO	0.47UF	50WV
C42			C90-3240-05	ELECTRO	22UF	35WV
C43			CE04LW1HR47M	ELECTRO	0.47UF	50WV
C44			CK73FB1E473K	CHIP C	0.047UF	K
C45			CC73FCH1H220J	CHIP C	22PF	J
C46			CE04LW1A101M	ELECTRO	100UF	10WV
C47			CK73FB1H103K	CHIP C	0.010UF	K
C48			CK73FSL1H101J	CHIP C	100PF	J
C49			CE04LW1H010M	ELECTRO	1.0UF	50WV
C50			CK73FB1H152K	CHIP C	1500PF	K
C51 ,52			C90-3217-05	ELECTRO	10UF	10WV
C53 ,54			CK73FB1H223K	CHIP C	0.023UF	K
C53 ,54			CK73FB1H333K	CHIP C	0.033UF	K
C55 ,56			CE04LW1H2R2M	ELECTRO	2.2UF	50WV
C57 ,58			CK73FB1H822K	CHIP C	8200PF	K
C59			CC73FSL1H101J	CHIP C	100PF	J
C60			CK73FB1E104K	CHIP C	0.10UF	K
C61			CK73FB1H103K	CHIP C	0.010UF	K
C64			CK73FB1H333K	CHIP C	0.033UF	K
C66			CC73FCH1H060D	CHIP C	6.0PF	D
C67			CC73FCH1H220J	CHIP C	22PF	J
C68			CC73FSL1H020C	CHIP C	2.0PF	C
C70			CC73FSL1H101J	CHIP C	100PF	J
C71 ,72			CK73FB1H103K	CHIP C	0.010UF	K
C73			CK73FB1H681K	CHIP C	680PF	K
C81			CC73FCH1H220J	CHIP C	22PF	J
C82			CC73FCH1H270J	CHIP C	27PF	J
C84			CK73FB1H102K	CHIP C	1000PF	K
C85			CC73FSL1H101J	CHIP C	100PF	J
C86			CK73FB1H102K	CHIP C	1000PF	K
C87			CE04LW1C100M	ELECTRO	10UF	16WV
C89			CE04LW1C470M	ELECTRO	47UF	16WV
C90			CE04LW1H2R2M	ELECTRO	2.2UF	50WV
C91			CK73FB1H223K	CHIP C	0.022UF	K
C92			CC73FSL1H471J	CHIP C	470PF	J
C93			CK73FB1H103K	CHIP C	0.010UF	K

	V. ICA	D. Mexico
I. Coordinación	V. ICA	D. Canada

E. Scandinavia	N. USA	F. Canada	H. Mexico
V. BY/E	T. F	F. F	C. C

T. FAX at Last, Hawaii) **E.** Europe **G.** Germany
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V : AUSLIM **M** : Ollier Aléas **U** : RUSSIA **A**

KR-V999D/1090VR

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
IC2			LC72131	MOS-IC		
Q1			2SC4081(R,S)	TRANSISTOR		
Q1			2SC4116(Y,GR)	TRANSISTOR		
Q3			2SA1576A(R,S)	TRANSISTOR		
Q3			2SA1586(Y,GR)	TRANSISTOR		
Q4			2SC4081(R,S)	TRANSISTOR		
Q4			2SC4116(Y,GR)	TRANSISTOR		
Q31-34			2SC4081(R,S)	TRANSISTOR		
Q31-34			2SC4116(Y,GR)	TRANSISTOR		
Q81			2SA1576A(R,S)	TRANSISTOR		
Q81			2SA1586(Y,GR)	TRANSISTOR		
Q101,102			2SD1757K	TRANSISTOR		
Q103			2SA1576A(R,S)	TRANSISTOR		
Q103			2SA1586(Y,GR)	TRANSISTOR		
A1			W02-2582-05	FM FRONT-END ASSY	KPY	
A1			W02-2584-05	FM FRONT-END ASSY	TE	
A1			W02-2586-05	FM FRONT-END ASSY	Q	
POWER AMPLIFIER UNIT (X07-290X-XX)						
C1		*	CK45FB1H332KMM	CERAMIC	3300PF	K
C9-12			CK45FF1H103ZMM	CERAMIC	0.010UF	Z
C13,14			CE04KW2A2R2M	ELECTRO	2.2UF	100WV
C17,18			CE04KW2A2R2M	ELECTRO	2.2UF	100WV
C21,22			CE04KW2A2R2M	ELECTRO	2.2UF	100WV
C25,26			CE04KW2A2R2M	ELECTRO	2.2UF	100WV
C29-36			CF92FV1H224J	MF-C	0.22UF	J
C37-42			CQ93FMG1H472J	MYLAR	4700PF	J
C43,44			CK45FB1H332KMM	CERAMIC	3300PF	K
C45			CK45FF1H103ZMM	CERAMIC	0.010UF	Z
C46-49			CE04KW2A2R2M	ELECTRO	2.2UF	100WV
C50,51			CF92FV1H224J	MF-C	0.22UF	J
C52-58			CQ93FMG1H102J	MYLAR	1000PF	J
C59			CQ93FMG1H472J	MYLAR	4700PF	J
C60			CE04KW1H100M	ELECTRO	10UF	50WV
C61			CE04KW1A101M	ELECTRO	100UF	10WV
C62			CE04KW0J331M	ELECTRO	330UF	6.3WV
C63			CE04KW1V220M	ELECTRO	22UF	35WV
C64			CE04KW1V470M	ELECTRO	47UF	35WV
C65			CE04KW1H3R3M	ELECTRO	3.3UF	50WV
C66,67			C90-3600-05	ELECTRO	15000UF	82WV
C68-73			CK45FE2H103PMM	CERAMIC	0.010UF	P
C74		*	CQ93FMG1H102J	MYLAR	1000PF	J
C80			CE04KW1A470M	ELECTRO	47UF	10WV
C81			CE04KW1A221M	ELECTRO	220UF	10WV
C82			CE04DW1E331M	ELECTRO	330UF	25WV
C83			CE04KW1V4R7M	ELECTRO	4.7UF	35WV
C84			CK45FF1H103ZMM	CERAMIC	0.010UF	Z
C85			C91-1444-05	MF	0.047UF	250VAC
C86			C91-1488-05	MF	6800PF	250VAC
C88		*	CK45FF1H103ZMM	CERAMIC	0.010UF	Z
CN5			E40-4245-05	PIN ASSY		CTKPY
CN6			E40-4294-05	FLAT CABLE CONNECTOR		
CN7			E40-4808-05	PIN ASSY		
CN8			E40-4293-05	FLAT CABLE CONNECTOR		
CN11			E40-3247-05	PIN ASSY		

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R43,44			RK73FB2A222J	CHIP R	1/10W	
R45,46			RK73FB2A102J	CHIP R	1/10W	
R47,48			RK73FB2A392J	CHIP R	1/10W	
R49			RK73FB2A473J	CHIP R	1/10W	
R51			RK73FB2A392J	CHIP R	1/10W	
R52			RK73FB2A104J	CHIP R	1/10W	
R53			RK73FB2A102J	CHIP R	1/10W	
R55			RK73FB2A562J	CHIP R	1/10W	
R56,57			RK73FB2A101J	CHIP R	1/10W	
R59			RK73FB2A272J	CHIP R	1/10W	
R67			RK73FB2A104J	CHIP R	1/10W	
R69			RK73FB2A103J	CHIP R	1/10W	
R80			RK73FB2B102J	CHIP R	1/8W	
R81-83			RK73FB2A102J	CHIP R	1/10W	
R84			RK73FB2A103J	CHIP R	1/10W	
R85-88			RK73FB2A102J	CHIP R	1/10W	
R89			RD14NB2E101J	RD	1/4W	
R90			RK73FB2A562J	CHIP R	1/10W	
R91			RK73FB2A222J	CHIP R	1/10W	
R92			RK73FB2A123J	CHIP R	1/10W	
R93			RK73FB2A122J	CHIP R	1/10W	
R94			RD14NB2E561J	RD	1/4W	
R101,102			RK73FB2A102J	CHIP R	1/10W	
R103			RK73FB2A821J	CHIP R	1/10W	
R104			RK73FB2A473J	CHIP R	1/10W	
R105			RK73FB2A822J	CHIP R	1/10W	
W51-55			R92-0670-05	CHIP R		
W57,58			R92-0679-05	CHIP R		
W59			R92-0670-05	CHIP R		
W61			R92-0670-05	CHIP R		
W62-64			R92-0679-05	CHIP R		
W66,67			R92-0679-05	CHIP R		
W71			R92-0670-05	CHIP R		
W72			R92-0670-05	CHIP R		
W75			R92-0670-05	CHIP R		
W81			R92-0679-05	CHIP R		
W83			R92-0679-05	CHIP R		
W85			R92-0670-05	CHIP R		
S1			S62-0034-05	SLIDE SWITCH		
D1,2			HSS104	DIODE		
D1,2			1SS133	DIODE		
D31			HZS8.2N(B2)	ZENER DIODE		
D31			RD8.2ES(B2)	ZENER DIODE		
D32			HSS104	DIODE		
D32			1SS133	DIODE		
D61,62			1SS104	DIODE		
D61,62			1SS133	DIODE		
D81			HZS5.1N(B2)	ZENER DIODE		
D81			RD5.1ES(B2)	ZENER DIODE		
D101			HZS3.3N(B2)	ZENER DIODE		
D101			RD3.3ES(B2)	ZENER DIODE		
D102			HZS2.7N(B2)	ZENER DIODE		
D102			RD2.7ES(B2)	ZENER DIODE		
IC1			LA1836	ANALOGUE IC		

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Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks
D29			RD1ES(B2)	ZENER DIODE		
D30			HZS15N(B2)	ZENER DIODE		
D31			RD1ES(B2)	ZENER DIODE		
D31			HSS104A	DIODE		
D31			1SS131	DIODE		
D32, 33			D5FB20-4002-L2	DIODE		
D34			HZS6.2N(B2)	ZENER DIODE		
D34			RD6.2ES(B2)	ZENER DIODE		
D35-37			HSS104A	DIODE		
D35-37			1SS131	DIODE		
D38-41			S5688B	DIODE		
D38-41			1SR139-400	DIODE		
D42			HZS2.7N(B2)	ZENER DIODE		
D42			RD2.7ES(B2)	ZENER DIODE		
D43			HSS104A	DIODE		
D43			1SS131	DIODE		
D44			HZS5.1S(B2)	ZENER DIODE		
D44			RD5.1US(B2)	ZENER DIODE		
D45-47			HSS104A	DIODE		
D45-47			1SS131	DIODE		
Q1-4			TRAITR4N*5	TRANSISTOR		
Q5-8			TRAITR4P*5	TRANSISTOR		
Q9-12			2SC2631(R,S)	TRANSISTOR		
Q13-16			2SA992(F,E)	TRANSISTOR		
Q17			TRAITR4N*5	TRANSISTOR		
Q18			TRAITR4P*5	TRANSISTOR		
Q19			2SC2631(R,S)	TRANSISTOR		
Q20, 21			2SA992(F,E)	TRANSISTOR		
Q22, 23			2SC1845(F,E)	TRANSISTOR		
Q24			2SD2012	TRANSISTOR		
Q24			2SD2061(E,F)	TRANSISTOR		
Q25			DTC143TSA	DIGITAL TRANSISTOR		
Q25			UN4216	DIGITAL TRANSISTOR		
Q26, 27			DTC113ZSA	DIGITAL TRANSISTOR		
Q26, 27			UN4219	DIGITAL TRANSISTOR		
Q28			DTC124ESA	DIGITAL TRANSISTOR		
Q28			UN4212	DIGITAL TRANSISTOR		
Q29-33			DTC113ZSA	DIGITAL TRANSISTOR		
Q29-33			UN4219	DIGITAL TRANSISTOR		
Q34			2SC2003(L,K)	TRANSISTOR		
Q35			2SC3940A(R,S)	TRANSISTOR		
Q35			2SD863(E,F)	TRANSISTOR		
Q36			DTC124ESA	DIGITAL TRANSISTOR		
Q36			UN4212	DIGITAL TRANSISTOR		
Q37			DTC143TSA	DIGITAL TRANSISTOR		
Q37			UN4216	DIGITAL TRANSISTOR		
Q38			DTC124ESA	DIGITAL TRANSISTOR		
Q38			UN4212	DIGITAL TRANSISTOR		
SURROUND UNIT (X08-273X-XX)						
C1, 2			CG73FSL1H821J	CHIP C		
C3, 4			CG73FSL1H181J	CHIP C		
C5, 6			CG93FMG1H332J	MYLAR		
C7, 8			CE04KW1E470M	ELECTRO		
C9, 10			CG73FSL1H101J	CHIP C		

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Δ CN14			E40-3385-05	PIN ASSY	MCTEQ	
Δ CN15-19			E40-4871-05	PIN ASSY	KPY	
Δ J1			E03-0148-05	AC OUTLET	EQM	
Δ J1			E03-0149-05	AC OUTLET	T	
Δ J1			E03-0310-05	AC OUTLET		
Δ J1		*	E03-0330-05	AC OUTLET	C	
Δ J2			E70-0055-05	SCREW TERMINAL BOARD		
Δ J3			E70-0049-05	SCREW TERMINAL BOARD		
Δ P2		*	E29-1625-04	LEAD PLATE		
Δ F1			F05-3121-05	FUSE (SEMKO)	CTEQ	
Δ F1			F50-0078-05	FUSE(5X20)	KP	
Δ F1, 2			F05-3121-05	FUSE (SEMKO)	MY	
Δ F3			F05-2525-05	FUSE (SEMKO)	E	
Δ CN1, 2			J61-0098-05	WIRE BAND		
Δ CN3, 4			J13-0075-05	FUSE CLIP	MY	
Δ CN9, 10			J13-0075-05	FUSE CLIP	E	
Δ E7, 9			J11-0808-05	WIRE CLAMPER		
Δ L1-5			L39-0085-05	PHASE COMPENSATION COIL	KP	
Δ T1			L07-0864-05	POWER TRANSFORMER	YMY	
Δ T1			L07-0865-05	POWER TRANSFORMER	TE	
Δ T1			L07-0867-05	POWER TRANSFORMER	CQ	
Δ T1			L07-2114-05	POWER TRANSFORMER		
Δ R1-4			RD14NB2E151J	RD		
Δ R5-12			RD14NB2E470J	RD		
Δ R13-20			RD14NB2E101J	RD		
Δ R21-28			RD14NB2E332J	RD		
Δ R49-52		*	RS14KB3A2R7JFR	FL-PROOF RS		
Δ R53-56			RD14NB2E220J	RD		
Δ R57			RD14NB2E151J	RD		
Δ R58, 59			RD14NB2E470J	RD		
Δ R60, 61			RD14NB2E101J	RD		
Δ R62, 63			RD14NB2E332J	RD		
Δ R69			RS14KB3A2R7JFR	FL-PROOF RS		
Δ R70			RD14NB2E220J	RD		
Δ R71, 72			RD14NB2E391J	RD		
Δ R73		*	RS14KB3A181JFR	FL-PROOF RS		
Δ R74			RD14NB2E102J	RD		
Δ R84, 85			RD14NB2E102J	RD		
Δ R88		*	RS14KB3A471JFR	FL-PROOF RS		
Δ R93			R92-1844-05	CARBON	KP	
Δ R100, 101			RD14NB2E3R9J	TRIMMING POT. (220 Ω)		
Δ VR1-5			R12-0605-05	TRIMMING POT. (220 Ω)		
Δ K1		*	S76-0065-05	MAGNETIC RELAY	KP	
Δ K1			S76-0070-05	MAGNETIC RELAY	MYCTEQ	
Δ K2-5			S76-0061-05	MAGNETIC RELAY		
Δ K6			S76-0063-05	MAGNETIC RELAY		
Δ K7			S76-0028-05	MAGNETIC RELAY		
Δ S2			S31-3010-05	SLIDE SWITCH		
Δ TS1			S59-1080-05	THERMAL SWITCH		
Δ TS2			S79-0020-05	THERMAL SWITCH		
Δ D1-28			HSS104A	DIODE		
Δ D1-28			1SS131	DIODE		
Δ D29			HZS11N(B2)	ZENER DIODE		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Re- marks
C107, 108			CC73FCH1H220J	22PF	J
C109			CC73FCH1H562J	5600PF	25WV
C110-112			CE04KW1E470M	47UF	J
C113, 114			CC73FCH1H220J	22PF	J
C115			CC73FCH1H562J	5600PF	J
C116			CE04KW1H220M	22UF	50WV
C117, 118			CC73FSL1H121J	120PF	J
C119, 120			CE04KW1E470M	47UF	25WV
C121			CC73FBI1H102K	1000PF	K
C122, 123			CC73FBI1H102K	0.010UF	K
C124			CC73FBI1H102K	1000PF	K
C125			CF92FV1H564J	0.56UF	J
C126			CC73FBI1H104K	0.10UF	K
C156			CE04KW1H220M	22UF	50WV
C157			CC73FBI1H103K	0.010UF	K
C158			CC73FBI1H102K	1000PF	K
C159, 160			CE04KW1E470M	47UF	25WV
C161			CC73FBI1H103K	0.010UF	K
C162			CC73FBI1H102K	1000PF	K
C163, 164			CC73FSL1H101J	100PF	J
C165, 166			CE04KW1H100M	10UF	50WV
C167, 168			CC73FSL1H821J	820PF	J
C169			CE04KW1H220M	22UF	50WV
C170			CC73FBI1H102K	1000PF	K
C171, 172			CC73FSL1H821J	820PF	J
C173, 174			CC73FSL1H221J	220PF	J
C181			CC73FBI1H103K	0.010UF	K
C182			CC73FBI1H102K	1000PF	K
C183			CE04KW1H477M	47UF	50WV
C184			CC73FSL1H101J	100PF	J
C185			CC73FBI1H103K	0.010UF	K
C186			CC73FBI1H102K	1000PF	K
C187			CC73FBI1H103K	0.010UF	K
C188			CC73FBI1H102K	1000PF	K
C189			CC73FBI1H103K	0.010UF	K
C190			CC73FBI1H102K	1000PF	K
C301			CE04KW1A101M	100UF	10WV
C302			CE04KW1E470M	47UF	25WV
C303, 304			CC73FBI1H102K	1000PF	K
C305, 306			CE04KW1A101M	100UF	10WV
C307, 308			CC73FBI1H102K	1000PF	K
C309			CE04KW1A101M	100UF	10WV
C310			CC73FBI1H102K	1000PF	K
C311			CE04KW1A101M	100UF	10WV
C312			CC73FBI1E104K	0.10UF	K
C313			CC73FCH1H102J	1000PF	J
C314			CC73FBI1H822K	8200PF	K
C315			CC73FCH1H070D	7.0PF	D
C316			CC73FCH1H090D	9.0PF	D
C317			CC73FBI1E104K	0.10UF	K
C318			CC73FBI1H102K	1000PF	K
C319			CC73FSL1H221J	220PF	J
C320			CC73FCH1H090D	9.0PF	D
C321			CC73FBI1H102K	1000PF	K
C322			CC73FCH1H070D	7.0PF	D

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Ref. No	Add-ress	New Parts	Parts No.	Description	Re- marks
C11, 12			MYLAR	1500PF	J
C13			CC73FBI1H103K	0.010UF	K
C14			CC73FBI1H102K	1000PF	K
C15, 16			CE04KW1H220M	22UF	50WV
C17			CC73FBI1H103K	0.010UF	K
C18			CC73FBI1H102K	1000PF	K
C19			CC73FSL1H101J	100PF	J
C21, 22			CC73FSL1H821J	820PF	J
C23			CC73FSL1H181J	180PF	J
C24			CC73FSL1H181J	470PF	J
C25			CC73FBI1H102K	3300PF	J
C26			CC73FBI1H102K	0.047UF	J
C27			CC73FBI1H102K	1500PF	J
C28			CC73FBI1H183J	0.018UF	J
C29			CC73FSL1H101J	100PF	J
C30			CC73FBI1H102K	4700PF	J
C31, 32			CE04KW1H220M	22UF	50WV
C33			CC73FBI1H103K	0.010UF	K
C34			CC73FBI1H102K	1000PF	K
C35			CC73FBI1H103K	0.010UF	K
C36			CC73FBI1H102K	1000PF	K
C37, 38			CE04KW1H100M	10UF	50WV
C39, 40			CC73FSL1H121J	120PF	J
C41, 42			CC73FSL1H821J	820PF	J
C43, 44			CC73FSL1H181J	180PF	J
C45, 46			CC73FBI1H102K	3300PF	J
C47, 48			CC73FSL1H101J	100PF	J
C49			CC73FBI1H103K	0.010UF	K
C50			CC73FBI1H102K	1000PF	K
C51, 52			CC73FBI1H102K	1500PF	J
C53			CC73FBI1H103K	0.010UF	K
C54			CC73FBI1H102K	1000PF	K
C55-60			CE04KW1H100M	10UF	50WV
C61-64			CF92FV1H224J	0.22UF	J
C65, 66			CC73FSL1H101J	100PF	J
C67, 68			CE04KW1H477M	47UF	50WV
C81-84			CF92FV1H224J	0.22UF	J
C85, 86			CC73FSL1H101J	100PF	J
C87, 88			CE04KW1H477M	47UF	50WV
C89			CC73FBI1H103K	0.010UF	K
C90			CC73FBI1H102K	1000PF	K
C91			CC73FBI1H103K	0.010UF	K
C92			CF92FV1H224J	0.22UF	J
C93			CC73FBI1H102K	1000PF	K
C94			CF92FV1H224J	0.22UF	J
C95			CC73FSL1H101J	100PF	J
C96			CE04KW1H477M	47UF	50WV
C97			CC73FSL1H101J	100PF	J
C98			CC73FSL1H470J	47PF	J
C99			CF92FV1H564J	0.56UF	J
C100			CF92FV1H274J	0.27UF	J
C101, 102			CE04KW1H220M	22UF	50WV
C103, 104			CE04KW1E470M	47UF	25WV
C105			CF92FV1H274J	0.27UF	J
C106			CE04KW1E470M	47UF	25WV

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C543,544			CE04KW1H220M	ELECTRO		
C545			CK73FB1H102K	CHIP C	50WV	
C546			CK73FB1H103K	CHIP C	1000PF	
C547,548			CE04KW1H220M	ELECTRO	0.010UF	
C549,550			CK73FCH1H220J	CHIP C	22PF	
C551			CK73FB1H102K	CHIP C	1000PF	
C552			CK73FB1H103K	CHIP C	0.010UF	
C553,554			CE04KW1H0R1M	ELECTRO	0.1UF	
C555,556			CK73FB1H152K	CHIP C	1500PF	
C559,560			CK73FCH1H220J	CHIP C	22PF	
C563			CK73FB1H102K	CHIP C	1000PF	
C564			CK73FB1H103K	CHIP C	0.010UF	
C565-568			CE04KW1H4R7M	ELECTRO	4.7UF	
C569,570			CK73FSL1H151J	CHIP C	150PF	
C571,572			CK73FSL1H101J	CHIP C	100PF	
C573,574			CE04KW1H220M	ELECTRO	22UF	
C575			CK73FB1H102K	CHIP C	1000PF	
C576			CK73FB1H103K	CHIP C	0.010UF	
C577,578			CE04KW1H220M	ELECTRO	22UF	
C579,580			CK73FCH1H220J	CHIP C	22PF	
C581			CK73FB1H102K	CHIP C	1000PF	
C582			CK73FB1H103K	CHIP C	0.010UF	
C587,588			CE04KW1H4R7M	ELECTRO	4.7UF	
C589,590			CK73FCH1H220J	CHIP C	22PF	
C593			CK73FB1H102K	CHIP C	1000PF	
C594			CK73FB1H103K	CHIP C	0.010UF	
C595-598			CE04KW1H4R7M	ELECTRO	4.7UF	
C599,600			CK73FSL1H151J	CHIP C	150PF	
C601,602			CK73FSL1H101J	CHIP C	100PF	
C603,604			CE04KW1H220M	ELECTRO	22UF	
C605			CK73FB1H102K	CHIP C	1000PF	
C606			CK73FB1H103K	CHIP C	0.010UF	
C607,608			CE04KW1H220M	ELECTRO	22UF	
C609,610			CK73FCH1H220J	CHIP C	22PF	
C611			CK73FB1H102K	CHIP C	1000PF	
C612			CK73FB1H103K	CHIP C	0.010UF	
C619,620			CK73FCH1H220J	CHIP C	22PF	
C701-712			CK73FSL1H101J	CHIP C	100PF	
C713			CK73FB1H102K	CHIP C	1000PF	
C714			CK73FB1H103K	CHIP C	0.010UF	
C715			CK73FB1H102K	CHIP C	1000PF	
C716			CK73FB1H103K	CHIP C	0.010UF	
C717,718			CK73FSL1H470J	CHIP C	47PF	
C801-812			CK73FCH1H100D	CHIP C	10PF	
C813			CK73EB1H104K	CHIP C	0.10UF	
C814			CE04KW1H4R7M	ELECTRO	4.7UF	
C815			CK73EB1H104K	CHIP C	0.10UF	
C816			CE04KW1H010M	ELECTRO	1.0UF	
C817			CK73EB1H104K	CHIP C	0.10UF	
C818			CE04KW1H4R7M	ELECTRO	4.7UF	
C901-903			CK73FB1H102K	CHIP C	1000PF	
C904			CK73FSL1H221J	CHIP C	220PF	
CN1,2		*	E40-9836-05	SOCKET FOR PIN ASSY		
CN51,52		*	E40-9836-05	SOCKET FOR PIN ASSY		

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C323-325			CK73FCH1H220J	CHIP C	22PF	
C327			CK73FCH1H090D	CHIP C	9.0PF	
C328			CK73FCH1H070D	CHIP C	7.0PF	
C329			CK73FB1H102K	CHIP C	1000PF	
C330			CK73FB1E104K	CHIP C	0.10UF	
C331			CK73FCH1H090D	CHIP C	9.0PF	
C332			CK73FCH1H070D	CHIP C	7.0PF	
C333			CK73FB1H222K	CHIP C	8200PF	
C334			CK73FB1H103K	CHIP C	0.010UF	
C335			CK73FB1E104K	CHIP C	0.10UF	
C336			CK73FB1H103K	CHIP C	0.010UF	
C337			CK73FSL1H101J	CHIP C	100PF	
C338,339			CK73FB1H102K	CHIP C	1000PF	
C340			CE04KW1A101M	ELECTRO	10WV	
C341			CK73FB1H102K	CHIP C	1000PF	
C342			CE04KW1E470M	ELECTRO	47UF	
C343			CK73FB1E104K	CHIP C	0.10UF	
C344			CK73FB1H103K	CHIP C	0.010UF	
C345			CK73FB1H102K	CHIP C	1000PF	
C347,348			CK73FB1H102K	CHIP C	1000PF	
C349			CK73FCH1H220J	CHIP C	22PF	
C361-363			CK73FB1E104K	CHIP C	0.10UF	
C364,365			CK73FSL1H101J	CHIP C	100PF	
C366			CE04KW1E470M	ELECTRO	47UF	
C367			CK73FF1C224Z	CHIP C	0.22UF	
C368,369			CK73FB1H102K	CHIP C	1000PF	
C370			CK73FCH1H220J	CHIP C	22PF	
C371,372			CK73FSL1H470J	CHIP C	47PF	
C373			CK73FB1H102K	CHIP C	1000PF	
C374			CE04KW1E470M	ELECTRO	47UF	
C401,402			CK73FB1E104K	CHIP C	0.10UF	KP
C403			CK73FB1H103K	CHIP C	0.010UF	KP
C404			CK73FB1H102K	CHIP C	1000PF	KP
C405,406			CK73FB1E104K	CHIP C	0.10UF	KP
C407			CK73FB1H102K	CHIP C	1000PF	KP
C501,502			CE04KW1H100M	ELECTRO	10UF	
C503			CK73FB1H102K	CHIP C	1000PF	
C504			CK73FB1H103K	CHIP C	0.010UF	
C505,506			CE04KW1H4R7M	ELECTRO	4.7UF	
C509,510			CK73FSL1H151J	CHIP C	150PF	
C511,512			CK73FSL1H101J	CHIP C	100PF	
C513,514			CE04KW1H220M	ELECTRO	22UF	
C515			CK73FB1H102K	CHIP C	1000PF	
C516			CK73FB1H103K	CHIP C	0.010UF	
C517,518			CE04KW1H220M	ELECTRO	22UF	
C519,520			CK73FCH1H220J	CHIP C	22PF	
C521			CK73FB1H102K	CHIP C	1000PF	
C522			CK73FB1H103K	CHIP C	0.010UF	
C525-528			CE04KW1H4R7M	ELECTRO	4.7UF	
C529,530			CK73FCH1H220J	CHIP C	22PF	
C533			CK73FB1H102K	CHIP C	1000PF	
C534			CK73FB1H103K	CHIP C	0.010UF	
C535-538			CE04KW1H4R7M	ELECTRO	4.7UF	
C539,540			CK73FSL1H151J	CHIP C	150PF	
C541,542			CK73FSL1H101J	CHIP C	100PF	

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R98_99			RK73FB2A512J	CHIP R	J	1/10W
R111,112			RK73FB2A104J	CHIP R	J	1/10W
R113,114			RK73FB2A123J	CHIP R	J	1/10W
R115,116			RK73FB2A203J	CHIP R	J	1/10W
R117,118			RK73FB2A104J	CHIP R	J	1/10W
R119,120			RK73FB2A103J	CHIP R	J	1/10W
R121,122			RK73FB2A222J	CHIP R	J	1/10W
R123,124			RK73FB2A123J	CHIP R	J	1/10W
R125-128			RK73FB2A222J	CHIP R	J	1/10W
R129,130			RK73FB2A103J	CHIP R	J	1/10W
R131-135			RK73FB2A104J	CHIP R	J	1/10W
R136			RK73FB2A103J	CHIP R	J	1/10W
R137,138			RK73FB2A512J	CHIP R	J	1/10W
R151,152			RK73FB2A104J	CHIP R	J	1/10W
R153,154			RK73FB2A222J	CHIP R	J	1/10W
R155,156			RK73FB2A123J	CHIP R	J	1/10W
R157,158			RK73FB2A203J	CHIP R	J	1/10W
R159,160			RK73FB2A123J	CHIP R	J	1/10W
R161-164			RK73FB2A472J	CHIP R	J	1/10W
R165,166			RK73FB2A331J	CHIP R	J	1/10W
R300			RK73FB2A101J	CHIP R	J	1/10W
R301			RK73FB2A105J	CHIP R	J	1/10W
R303			RK73FB2A100J	CHIP R	J	1/10W
R304-307			RK73FB2A101J	CHIP R	J	1/10W
R308			RK73FB2A104J	CHIP R	J	1/10W
R309-313			RK73FB2A101J	CHIP R	J	1/10W
R314-316			RK73FB2A102J	CHIP R	J	1/10W
R317-319			RK73FB2A101J	CHIP R	J	1/10W
R320			RK73FB2A473J	CHIP R	J	1/10W
R321-323			RK73FB2A101J	CHIP R	J	1/10W
R324			RK73FB2A102J	CHIP R	J	1/10W
R325-328			RK73FB2A101J	CHIP R	J	1/10W
R329			RK73FB2A104J	CHIP R	J	1/10W
R330			RK73FB2A101J	CHIP R	J	1/10W
R331			RK73FB2A104J	CHIP R	J	1/10W
R332			RK73FB2A105J	CHIP R	J	1/10W
R333			RK73FB2A104J	CHIP R	J	1/10W
R334,335			RK73FB2A101J	CHIP R	J	1/10W
R336-345			RK73FB2A104J	CHIP R	J	1/10W
R346,347			RK73FB2A101J	CHIP R	J	1/10W
R348			RK73FB2A104J	CHIP R	J	1/10W
R349,350			RK73FB2A101J	CHIP R	J	1/10W
R351-376			RK73FB2A104J	CHIP R	J	1/10W
R377-379			RK73FB2A101J	CHIP R	J	1/10W
R380-382			RK73FB2A104J	CHIP R	J	1/10W
R384,385			RK73FB2A750J	CHIP R	J	1/10W
R387-398			RK73FB2A104J	CHIP R	J	1/10W
R399			RK73FB2A750J	CHIP R	J	1/10W
R400-402			RD14NB2E471J	RD	J	1/4W
R403			RK73FB2A102J	CHIP R	J	1/10W
R404			RD14NB2E470J	RD	J	1/4W
R405			RK73FB2A102J	CHIP R	J	1/10W
R406-408			RK73FB2A102J	CHIP R	J	1/10W
R409			RK73FB2A101J	CHIP R	J	1/10W
R410-413			RK73FB2A223J	CHIP R	J	1/10W

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J1			E11-0200-05	MINIATURE PHONE JACK(5P)	KP	
J2			E11-0344-05	MINIATURE PHONE JACK	KP	
J3			E63-0174-05	PHONO JACK	KP	
J71_72			E63-0139-15	MINIATURE PHONE JACK(3P)		
J73_75			E11-0283-05	MINIATURE PHONE JACK(3P)		
L1_7			L92-0044-05	FERRITE CORE		
X1			L78-0294-05	RESONATOR (10.000M)		
X2			L77-2194-05	CRYSTAL RESONATOR(5.0M)		
X3			L77-2192-05	CRYSTAL RESONATOR(12.288M)		
R1_2			RK73FB2A103J	CHIP R	J	1/10W
R3_4			RK73FB2A512J	CHIP R	J	1/10W
R5_6			RK73FB2A912J	CHIP R	J	1/10W
R7_8			RK73FB2A103J	CHIP R	J	1/10W
R13_14			RK73FB2A512J	CHIP R	J	1/10W
R15_16			RK73FB2A104J	CHIP R	J	1/10W
R17_18			RK73FB2A473J	CHIP R	J	1/10W
R19_20			RK73FB2A103J	CHIP R	J	1/10W
R21_22			RK73FB2A103J	CHIP R	J	1/10W
R23			RK73FB2A512J	CHIP R	J	1/10W
R24			RK73FB2A822J	CHIP R	J	1/10W
R25			RK73FB2A912J	CHIP R	J	1/10W
R26			RK73FB2A182J	CHIP R	J	1/10W
R27_29			RK73FB2A103J	CHIP R	J	1/10W
R30			RK73FB2A104J	CHIP R	J	1/10W
R31			RK73FB2A103J	CHIP R	J	1/10W
R32			RK73FB2A103J	CHIP R	J	1/10W
R33			RK73FB2A512J	CHIP R	J	1/10W
R34			RK73FB2A182J	CHIP R	J	1/10W
R35_36			RK73FB2A103J	CHIP R	J	1/10W
R37_40			RK73FB2A471J	CHIP R	J	1/10W
R41_42			RK73FB2A103J	CHIP R	J	1/10W
R43_44			RK73FB2A512J	CHIP R	J	1/10W
R45_46			RK73FB2A912J	CHIP R	J	1/10W
R47_48			RK73FB2A103J	CHIP R	J	1/10W
R49_50			RK73FB2A471J	CHIP R	J	1/10W
R51			RK73FB2A103J	CHIP R	J	1/10W
R52			RK73FB2A104J	CHIP R	J	1/10W
R53_54			RK73FB2A512J	CHIP R	J	1/10W
R55_56			RK73FB2A104J	CHIP R	J	1/10W
R57_59			RK73FB2A203J	CHIP R	J	1/10W
R61_62			RK73FB2A104J	CHIP R	J	1/10W
R63_64			RK73FB2A133J	CHIP R	J	1/10W
R65_66			RK73FB2A822J	CHIP R	J	1/10W
R67_68			RK73FB2A104J	CHIP R	J	1/10W
R81_82			RK73FB2A104J	CHIP R	J	1/10W
R83_84			RK73FB2A133J	CHIP R	J	1/10W
R85_86			RK73FB2A622J	CHIP R	J	1/10W
R87_88			RK73FB2A104J	CHIP R	J	1/10W
R89_90			RK73FB2A203J	CHIP R	J	1/10W
R91			RK73FB2A104J	CHIP R	J	1/10W
R92			RK73FB2A622J	CHIP R	J	1/10W
R93			RK73FB2A133J	CHIP R	J	1/10W
R94_95			RK73FB2A104J	CHIP R	J	1/10W
R96_97			RK73FB2A203J	CHIP R	J	1/10W

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R705,706			RK73FB2A102J	CHIP R	1/10W	
R707,708			RK73FB2A224J	CHIP R	1/10W	
R709,710			RK73FB2A221J	CHIP R	1/10W	
R711,712			RK73FB2A104J	CHIP R	1/10W	
R713,714			RK73FB2A102J	CHIP R	1/10W	
R715,716			RK73FB2A104J	CHIP R	1/10W	
R717,718			RK73FB2A102J	CHIP R	1/10W	
R719,720			RK73FB2A104J	CHIP R	1/10W	
R721,722			RK73FB2A102J	CHIP R	1/10W	
R723,724			RK73FB2A104J	CHIP R	1/10W	
R725,728			RK73FB2A103J	CHIP R	1/10W	
R801-814			RK73FB2A473J	CHIP R	1/10W	
R815			RK73FB2A562J	CHIP R	1/10W	
R816,817			RK73FB2A473J	CHIP R	1/10W	
R818			RK73FB2A562J	CHIP R	1/10W	
R819,820			RK73FB2A473J	CHIP R	1/10W	
R821			RK73FB2A562J	CHIP R	1/10W	
R902			RK73FB2A913J	CHIP R	1/10W	
R903			RK73FB2A223J	CHIP R	1/10W	
R904-906			RD14NB2E471J	RD	1/4W	
D1, 2			DA204K	DIODE		
D3, 5			MA110	DIODE		
D6			DA204K	DIODE		
D41			DA204K	DIODE		
D501			DA204K	DIODE		
D502-504			MA110	DIODE		
D701			DA204K	DIODE		
D702,703			MA110	DIODE		
D704			UDZ18B	ZENER DIODE		
D801-803						
IC1 -16			NJM4580E	ANALOGUE IC		
IC1 -16			NJM4580ED	ANALOGUE IC		
IC17			TC9163AF	MOS-IC		
IC18			TC9162AF	MOS-IC		
IC19,20			TC7W00FU	MOS-IC		
IC31			TA7805S	IC(VOLTAGE REGULATOR/ +5V)		
IC31			UPC7805AHF	ANALOGUE IC		
IC32			UPD78016FGC522	MI-COM IC		
IC33			DSPF56009FJ81	MOS-IC		
IC34			CS4226-KQ	MOS-IC		
IC35			TC74HCU04AF	IC(HEX INVERTER SMD)		
IC36			LH64256CK-70	MEMORY IC		
IC37,38			TA7805S	IC(VOLTAGE REGULATOR/ +5V)		
IC37,38			UPC7805AHF	ANALOGUE IC		
IC39			TC74HCU04AF	IC(HEX INVERTER SMD)		
IC51			TC9412AP	MOS-IC		
IC52,53			NJM4580E	ANALOGUE IC		
IC52,53			NJM4580ED	ANALOGUE IC		
IC54			TC9412AP	MOS-IC		
IC55,56			NJM4580E	ANALOGUE IC		
IC55,56			NJM4580ED	ANALOGUE IC		
IC57			TC9412AP	MOS-IC		
IC58,59			NJM4580E	ANALOGUE IC		
IC58,59			NJM4580ED	ANALOGUE IC		
IC60			TC9412AP	MOS-IC		

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R414			RK73FB2A102J	CHIP R	1/10W	
R501,502			RK73FB2A104J	CHIP R	1/10W	
R503,504			RK73FB2A105J	CHIP R	1/10W	
R505,506			RK73FB2A104J	CHIP R	1/10W	
R507,508			RK73FB2A102J	CHIP R	1/10W	
R509,510			RK73FB2A224J	CHIP R	1/10W	
R511-514			RK73FB2A104J	CHIP R	1/10W	
R515,516			RK73FB2A222J	CHIP R	1/10W	
R517,518			RK73FB2A102J	CHIP R	1/10W	
R519,520			RK73FB2A133J	CHIP R	1/10W	
R521,522			RK73FB2A222J	CHIP R	1/10W	
R523,524			RK73FB2A272J	CHIP R	1/10W	
R525,526			RK73FB2A362J	CHIP R	1/10W	
R527,528			RK73FB2A444J	CHIP R	1/10W	
R529,530			RK73FB2A100J	CHIP R	1/10W	
R531,532			RK73FB2A105J	CHIP R	1/10W	
R533,534			RK73FB2A184J	CHIP R	1/10W	
R535,536			RK73FB2A102J	CHIP R	1/10W	
R537,538			RK73FB2A334J	CHIP R	1/10W	
R539,540			RK73FB2A241J	CHIP R	1/10W	
R541-544			RK73FB2A104J	CHIP R	1/10W	
R545,546			RK73FB2A222J	CHIP R	1/10W	
R547,548			RK73FB2A102J	CHIP R	1/10W	
R549,550			RK73FB2A334J	CHIP R	1/10W	
R551,552			RK73FB2A822J	CHIP R	1/10W	
R553,554			RK73FB2A133J	CHIP R	1/10W	
R555,556			RK73FB2A272J	CHIP R	1/10W	
R557,558			RK73FB2A362J	CHIP R	1/10W	
R559,560			RK73FB2A444J	CHIP R	1/10W	
R563,564			RK73FB2A105J	CHIP R	1/10W	
R565,566			RK73FB2A184J	CHIP R	1/10W	
R567,568			RK73FB2A102J	CHIP R	1/10W	
R569,570			RK73FB2A241J	CHIP R	1/10W	
R571,574			RK73FB2A104J	CHIP R	1/10W	
R575,576			RK73FB2A222J	CHIP R	1/10W	
R577,578			RK73FB2A102J	CHIP R	1/10W	
R583,584			RK73FB2A133J	CHIP R	1/10W	
R585,586			RK73FB2A272J	CHIP R	1/10W	
R587,588			RK73FB2A362J	CHIP R	1/10W	
R589,590			RK73FB2A444J	CHIP R	1/10W	
R593,594			RK73FB2A105J	CHIP R	1/10W	
R595,596			RK73FB2A184J	CHIP R	1/10W	
R597,598			RK73FB2A102J	CHIP R	1/10W	
R599,600			RK73FB2A241J	CHIP R	1/10W	
R601,604			RK73FB2A104J	CHIP R	1/10W	
R605,606			RK73FB2A222J	CHIP R	1/10W	
R607,608			RK73FB2A102J	CHIP R	1/10W	
R613,614			RK73FB2A133J	CHIP R	1/10W	
R615,616			RK73FB2A272J	CHIP R	1/10W	
R616,618			RK73FB2A362J	CHIP R	1/10W	
R619,620			RK73FB2A222J	CHIP R	1/10W	
R621,622			RK73FB2A444J	CHIP R	1/10W	
R701,702			RK73FB2A221J	CHIP R	1/10W	
R703,704			RK73FB2A224J	CHIP R	1/10W	

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IC61.62			NJM4580E	ANALOGUE IC		
IC61.62			NJM4580ED	ANALOGUE IC		
Q1-3			TC9163AF	MOS-IC	KP	
Q1-3			DTIC124EUA	DIGITAL TRANSISTOR	KP	
Q1-3			UN5212	DIGITAL TRANSISTOR	KP	
Q4.5			DTA124EUA	DIGITAL TRANSISTOR	KP	
Q4.5			UN5112	DIGITAL TRANSISTOR	KP	
Q501-516			2SC4213(B)	TRANSISTOR	KP	
Q517			DTIC124EUA	DIGITAL TRANSISTOR	KP	
Q517			UN5212	DIGITAL TRANSISTOR	KP	
Q518			2SB1308(Q,R)	TRANSISTOR	KP	
Q801-803			DTIC113ZUA	DIGITAL TRANSISTOR		
Q801-803			UN5219	DIGITAL TRANSISTOR		
A1			W02-1181-05	OPTIC RECEIVING MODULE		
SUB CIRCUIT UNIT (X13-747X-XX)						
C203.204		*	CK45FB1H222KMM	2200PF	K	
C205.206			CE04KW1E470M	47UF	25WV	
C207.208			CK45FF1H103ZMM	0.010UF	Z	
C209			CE04KW1V100M	10UF	35WV	
C221			CE04KW1V100M	10UF	35WV	
C223			CE04KW1A101M	100UF	10WV	
C224			CF92FV1H104J	0.10UF	J	
C225			CE04KW1V100M	10UF	35WV	
C226			CE04KW1E470M	47UF	25WV	
C227			CE04KW1A101M	100UF	10WV	
C228			CF92FV1H104J	0.10UF	J	
C229			CE04KW1E470M	47UF	25WV	
C231.232			CE04KW1H100M	10UF	50WV	
C233.234			CK45FF1H103ZMM	0.010UF	Z	
C235.236			CE04KW1H100M	10UF	50WV	
C237.238			CK45FF1H103ZMM	0.010UF	Z	
C239			CE04KW1H100M	10UF	50WV	
C240.241			CF92FV1H104J	0.10UF	J	
C242.243			CE04KW1H100M	10UF	50WV	
C251.252			CE04KW1E470M	47UF	25WV	
C253			CF92FV1H104J	0.10UF	J	
C254.255			CE04KW1E470M	47UF	25WV	
C256			CF92FV1H333J	0.033UF	J	
C301			CE04KW1H010M	1.0UF	50WV	
C302			CE04KW0J221M	220UF	6.3WV	
C303			C90-1826-05	0.047F	5.5WV	
C304			CK45FF1H103ZMM	0.010UF	Z	
C306			CE04KW1H010M	1.0UF	50WV	
C307.308			CK45FF1H103ZMM	0.010UF	Z	
C321		*	CK45FF1H103ZMM	0.010UF	Z	
C322.323		*	CK45FB1H102KMM	1000PF	K	
C324		*	CK45FF1H103ZMM	0.010UF	Z	
C351.352		*	CK45FSL1H221JN	220PF	J	
C353		*	CK45FF1H103ZMM	0.010UF	Z	
C401-405		*	CE04KW1V102M	1000UF	35WV	
C406			CE04KW1J471M	470UF	63WV	
C407			CE04KW1V471M	470UF	35WV	
C408			CK45FF1H103ZMM	0.010UF	Z	
C409.410			CE04KW1C222M	2200UF	16WV	

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C412.413		*	CK45FE1H103ZMM	0.010UF	Z	
C415-417			CK45FE2H103FMM	0.010UF	P	
C420			CK45FE2H103FMM	0.010UF	P	
C421			C91-1488-05	6800PF	K	
C431			CK45FB1H471KMM	470PF	K	
C432			CE04KW1H100M	10UF	50WV	
CN101.102			E40-9853-05	PIN ASSY		
CN103			E40-9849-05	PIN ASSY		
CN104			E40-9847-05	PIN ASSY		
CN105.106			E40-9853-05	PIN ASSY		
CN107			E40-9849-05	PIN ASSY		
CN108			E40-9848-05	PIN ASSY		
CN109			E40-9847-05	PIN ASSY		
CN110			E40-9846-05	PIN ASSY		
CN111		*	E40-4804-05	SOCKET FOR PIN ASSY		
CN401			E40-4808-05	PIN ASSY		
CN402			E40-4294-05	FLAT CABLE CONNECTOR		
CN403			E40-4295-05	FLAT CABLE CONNECTOR		
J301			E11-0293-05	MINIATURE PHONE JACK(2P 3φ)		
F11-13			F05-1222-05	FUSE (SEMKO)		
F14			F05-0067-05	FUSE (5X20)		
F14			F05-5016-05	FUSE (SEMKO)		
F14			F05-0066-05	FUSE (5X20)		
F15.16			F05-1623-05	FUSE (SEMKO)		
F15.16		*	F05-0068-05	FUSE (5X20)		
F17			F05-1222-05	FUSE (SEMKO)		
F17			F05-0067-05	FUSE (5X20)		
CN411-424			J13-0075-05	FUSE CLIP		
L101			L40-1021-14	SMALL FIXED INDUCTOR(1.0MH.K)		
L108			L92-0044-05	FERRITE CORE		
X1			L78-0267-05	RESONATOR (4.194MHZ)		
CP1.2			R90-0803-05	MULTI-COMP		
CP3			R90-0500-05	MULTI-COMP		
CP4			R90-0855-05	MULTI-COMP		
CP5			R90-0851-05	MULTI-COMP		
CP6			R90-0482-05	MULTI-COMP		
R207		*	RD14NB2E1R8J	RD		
R208			RD14NB2E2R7J	RD		
R211.212			RD14NB2E102J	RD		
R215.216			RD14NB2E21J	RD		
R231			RD14NB2E471J	RD		
R232			RD14NB2E881J	RD		
R233.234			RD14NB2E2R2J	RD		
R401			RD14NB2E4R7J	RD		
R402		*	RS14KB3A472JFR	FL-PROOF RS		
R411.412			RD14NB2E102J	RD		
R413			RD14NB2E6R8J	RD		
R414			RD14NB2E100J	RD		
R415			RD14NB2E681J	RD		
S1			S40-1138-05	PUSH SWITCH (POWER TYPE)		
D201.202			HZS15S(B)	ZENER DIODE		

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PARTS LIST

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
Q202			2SA1048(Y,GR)	TRANSISTOR		
Q203-205			2SA1308A(Q,R)	TRANSISTOR		
Q203-205			2SC2458(Y,GR)	TRANSISTOR		
Q206,207			2SC3311A(Q,R)	TRANSISTOR		
Q208			2SC2878(B)	TRANSISTOR		
Q208			DTA113ZSA	DIGITAL TRANSISTOR	MYCTEQ	
Q209			UN4119	DIGITAL TRANSISTOR	MYCTEQ	
Q209			DTC113ZSA	DIGITAL TRANSISTOR	MYCTEQ	
Q210			UN4219	DIGITAL TRANSISTOR	MYCTEQ	
Q210			DTC113ZSA	DIGITAL TRANSISTOR		
Q211			UN4119	DIGITAL TRANSISTOR		
Q212			2SC2458(Y,GR)	DIGITAL TRANSISTOR		
Q212			2SC3311A(Q,R)	TRANSISTOR		
Q213,214			2SC2003(L,K)	TRANSISTOR		

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C318			CE04KW1C331M	ELECTRO	MYCTEQ	
C319		*	CK45FF1H1032MM	CERAMIC	MYCTEQ	
C320,321		*	CK45FF1H1032MM	CERAMIC		
C322-324		*	CC45FSL1H101JN	CERAMIC	MYCTEQ	
C325		*	CE04KW1H100M	ELECTRO		
C326		*	CK45FF1H1032MM	CERAMIC		
C327		*	CE04KW1H100M	ELECTRO		
C328		*	CK45FF1H1032MM	CERAMIC		
C329		*	CC45FSL1H100DN	CERAMIC		
TC201			C05-0097-05	CERAMIC TRIMMER CAPACITOR(30PF)		
TC202			C05-0097-05	CERAMIC TRIMMER CAPACITOR(30PF)	MYCTEQ	
CN1			E40-9832-05	SOCKET FOR PIN ASSY		
CN2			E40-9830-05	SOCKET FOR PIN ASSY		
CN201			E40-9831-05	SOCKET FOR PIN ASSY		
CN202			E40-9832-05	SOCKET FOR PIN ASSY		
J1 .2			E63-0139-15	PHONO JACK		
J3 .4			E63-0169-05	PHONO JACK		
J201			E63-0162-05	PHONO JACK		
J202			E63-0163-05	PHONO JACK		
L201			L40-2201-17	SMALL FIXED INDUCTOR(22UH,K)	MYCTEQ	
L202			L40-2201-17	SMALL FIXED INDUCTOR(22UH,K)		
X201		*	L77-2201-05	CRYSTAL RESONATOR(14.31818M)	MYCTEQ	
X202			L78-0272-05	RESONATOR (503.5K)	MYCTEQ	
X203		*	L77-2202-05	CRYSTAL RESONATOR(17.73447M)	MYCTEQ	
X204			L78-0300-05	RESONATOR (500K)	MYCTEQ	
R317			RD14NB2E470J	RD	MYCTEQ	
R326			RD14NB2E100J	RD	MYCTEQ	
R327			RD14NB2E100J	RD	MYCTEQ	
R328			RD14NB2E47J	RD	MYCTEQ	
D11 -13			HSS104	DIODE	MYCTEQ	
D11 -13			1SS133	DIODE	MYCTEQ	
D201,202			HSS104	DIODE		
D201,202			1SS133	DIODE		
IC1 -6			NJM4580D	IC(OP AMP X2)		
IC1 -6			NJM4580D-D	IC(OP AMP X2)		
IC7 .8			TC9164N	MOS-IC		
IC9			TC9162N	MOS-IC		
IC201		*	SN761200N	ANALOGUE IC		
IC202			TC74HC4051AP	IC(ANALOG MULTIPLEXER)		
IC203			MC14577CP	ANALOGUE IC		
IC204		*	MB90089PF-188	CUSTOM IC		
IC205			MM1067XD	IC(SYNC SEPARATION)	MYCTEQ	
IC206		*	MB90089PF-188	CUSTOM IC	MYCTEQ	
IC207			MM1067XD	IC(SYNC SEPARATION)		
IC208			TC74HC4053AP	IC(ANALOG MULTIPLEXER)	MYCTEQ	
IC209		*	LA7950	ANALOGUE IC	MYCTEQ	
Q1 -6			2SC2878(B)	TRANSISTOR		
Q7			DTA124ESA	DIGITAL TRANSISTOR		
Q7			UN4112	DIGITAL TRANSISTOR		
Q8 .9			2SC2458(Y,GR)	TRANSISTOR		
Q8 .9			2SC3311A(Q,R)	TRANSISTOR		
Q201			2SC2458(Y,GR)	TRANSISTOR		
Q201			2SC3311A(Q,R)	TRANSISTOR		

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SPECIFICATIONS

AUDIO section

Rated power output during STEREO operation

150 watts per channel minimum RMS, both channels driven, at 6 Ω from 20 Hz to 20 kHz with no more than 0.03 % total harmonic distortion.(FTC)

Rated power output during SURROUND operation

FRONT
(1kHz, 0.7% T.H.D. at 6 Ω) 150 W + 150 W
CENTER
(1kHz, 0.7% T.H.D. at 6 Ω) 150 W
SURROUND
(1kHz, 0.7% T.H.D. at 6 Ω) 150 W + 150 W

Total harmonic distortion 0.003%(1 kHz, 75W, 6 Ω)

Frequency response

CD 5 Hz ~ 85 kHz, +0.5 dB, -3 dB

Signal to noise ratio (IHF'66)

PHONO (MM) 77 dB

CD 97 dB

Input sensitivity / impedance

PHONO (MM) 2.5 mV / 47 k Ω

CD 200 mV / 47 k Ω

Output level / impedance

TAPE REC 200 mV / 470 Ω

PRE OUT (FRONT, CENTER, SURROUND, SUBWOOFER)

..... 1 V / 1.2 k Ω

Tone control

BASS ± 10 dB (at 100 Hz)

TREBLE ± 10 dB (at 10 kHz)

LOUDNESS control

VOLUME at -40dB level ...+7 dB(100 Hz), +3 dB(10 kHz)

DIGITAL AUDIO section

Sampling frequency 32 kHz, 44.1 kHz, 48 kHz

Input level / impedance / wave length

Optical -15 dBm ~ -21 dBm, 600 nm ± 30 nm

Coaxial 0.5 Vp-p / 75 Ω

VIDEO section

Video format NTSC

VIDEO inputs / outputs

VIDEO (composite) 1 Vp-p / 75 Ω

S-VIDEO (luminance signal) 1 Vp-p / 75 Ω
(chrominance signal) 0.286 Vp-p / 75 Ω

FM tuner section

Tuning frequency range 87.5 MHz ~ 108 MHz

Usable sensitivity (MONO)

..... 1.6uV (75 Ω) / 15.2 dBf (75 kHz DEV., SINAD 30 dB)

50dB quieting sensitivity

STEREO 31.6uV (75 W) / 41.2 dBf

Total harmonic distortion (1 kHz)

(for U.S.A. and Canada)

MONO 0.2 % (65 dBf input)

STEREO 0.5 % (65 dBf input)

(except for U.S.A. and Canada)

MONO 0.6 % (65 dBf input)

STEREO 0.7 % (65 dBf input)

Signal to noise ratio (1 kHz, 75 kHz DEV.)

MONO 75 dB (65 dBf input)

STEREO 68 dB (65 dBf input)

Stereo separation (1 kHz) 40 dB

Selectivity (± 400 kHz)

(for U.S.A. and Canada) 70 dB

(except for U.S.A. and Canada) 50 dB

Frequency response 30 Hz ~ 15kHz, +0.5 dB, -3.0 dB

AM tuner section

Tuning frequency range (for U.S.A. and Canada)

10 kHz step 530 kHz ~ 1,700 kHz

Tuning frequency range (except for U.S.A. and Canada)

9 kHz step 531 kHz ~ 1.602 kHz

10 kHz step 530 kHz ~ 1.610 kHz

Usable sensitivity (30% mod., S/N 20 dB)

..... 16 uV / (600 uV/m)

Signal to noise ratio (30 % mod. 1 mV input) 48 dB

Relay and IR IN/OUT section (for U.S.A. and Canada only)

RELAY CONTROL terminal

Maximum output current 20 mA

Operating voltage 12 V

Output impedance 470 Ω

IR RECEIVER IN terminal

Maximum output current 20 mA

Operating voltage 12 V

Output impedance 470 Ω


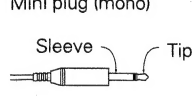
IR REPEATER CONTROL terminals

Maximum output current 20 mA

Operating voltage 12 V

Output impedance 470 Ω

Shape of plug to be connected

IR RECEIVER IN and RELAY CONTROL	IR REPEATER OUT
	

IR IN/OUT specification

Terminal	IR RECEIVER IN	IR REPEATER OUT
To Tip	Signal	Signal
To Ring	Ground	—
To Sleeve	+12 V	Ground

RELAY CONTROL specification

Status	Power off	Power on	Power on and when switch to video input
To Tip	0 V	0 V	+12 V
To Ring	0 V	+12 V	+12 V
To Sleeve	Ground	Ground	Ground